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PSYCHOLOGIC ASPECTS OF CONVALESCENCE: XX *

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Sick and wounded soldiers in this war are in many ways more fortunate than those in the last war. They are being treated with benefit of advances in chemotherapy and in medical and surgical procedures; they are being transported with a minimum of trauma, and rapidly, to hospitals and units where they receive definitive treatment. Moreover, they find in their medical officer a physician who has a broader understanding of the psychologic aspects of disease.

The duration and course of convalescence are deeply influenced by the psychologic reactions of the patient. Their importance cannot be overemphasized. The recognition and management of personality disturbances plays as great a part in treatment as does the use of specific medical and surgical procedures. Employment of adequate measures for combating resentments, dissatisfactions, anxieties and fears will minimize symptoms during convalescence, shorten its duration and increase the proportion of completely rehabilitated patients.

I. THE PROBLEM

The incidence of personality disturbances in the armed forces is related to such factors as dislocation as regards family, friends, work, and life plans; regimentation; anxiety-provoking situations, and changes from ideals inherent in peace to others associated with war and bloodshed.

These factors affect all men. The possibility is constantly present that personality disturbances will be precipitated or that minimal disturbances will become aggravated. This danger is especially great during any bodily disorder. These personality disturbances then interfere seriously with recovery and return to duty.

Recent studies have shown that all males of military age can be graded according to their neurotic potentiality and military adequacy.[1] About 80 per cent, barring a 'Tobruk,' a 'Guadalcanal' or a serious infection of trauma, have no major difficulty. The next 10 to 15 per cent, who have a greater neurotic potentiality, will, with a little luck and minimal aid, successfully adjust themselves. This group contains many persons of high military usefulness. It is doubtful whether it is profitable for the military services to expend time and energy on the worst 5 per cent, who in all probability are unsuitable for military life.

The problem of the medical officer is, then, to concentrate on the remaining 95 per cent, to mitigate the deleterious effects of military experience, hospitalization and illness.[2]

Perhaps the most important group of all to the physicians in the armed forces is composed of those individuals whose illness from infection or trauma and whose convalescence are complicated and distorted by personality problems. Although all freely admit that such complicated clinical situations exist, the magnitude of the problem is not generally appreciated. Some patients shuttle back and forth between the neuropsychiatry section and the medical or surgical service without either department evaluating both aspects of the disease. Some, because a structural defect is present which could possibly be held to account for the patient's complaints, remain in the medical and surgical wards for undue periods with no investigation of the personality factors.

To define and permit a better approach to this problem, a survey was made of the incidence of personality and psychosomatic disturbances in patients in medical and surgical pavilions of military hospitals.[3] Four hundred and fifty unselected admissions to such wards were studied. A psychiatric interview covering significant aspects of the personality and service experience of the individuals was carried out in each case and the percentage of those with 'mild,' 'moderately severe' and 'severe' neuroses determined.[4] A relatively small group was found to have severe neuroses and a larger number to have mild personality disturbances. The term 'severe' is used to indicate a disorder which will seriously impair the capacity to resume military duties, while 'mild' indicates that personality problems will delay the return to full duty.

These personality disturbances were unrecognized by the medical officers in charge as factors which complicated the patient's response to infection and trauma, which retarded convalescence, and which were likely to lead to decreased military efficiency.

* Prepared at the request of and presented under the auspices of the Committee on Convalescence and Rehabilitation of the Division of Medical Sciences of the National Research Council.

The specific studies mentioned in this report are derived from the New York Hospital and the Departments of Medicine (Neurology) and Psychiatry, Cornell University Medical College, New York, under a contract with the Committee on Medical Research of the Office of Scientific Research and Development.

1. Weider, A.; Mittelmann, B.; Wechsler, D., and Wolff, H. G.: The Cornell Selectee Index: A Method for Quick Testing of Selectees for the Armed Forces, J. A. M. A. **124**: 224 (Jan. 22) 1944.

2. Menninger, W. C.: Psychiatric Problems in the Army, J. A. M. A. **123**: 751 (Nov. 20) 1943; Psychiatric Problems in Army Hospitals, Bull. U. S. Army M. Dept., 1943, no. 71, p. 31. Freedman, H. L.: The Services of the Military Mental Hygiene Unit, Am. J. Psychiat. **100**: 94, 1943. Porter, W. C.: What Has Psychiatry Learned During the Present War? ibid. **99**: 850, 1943.

3. Mittelmann, B.; Weider, A.; Brodman, K.; Wechsler, D., and Wolff, H. G.: Personality and Psychosomatic Disturbances in Patients on Medical and Surgical Wards: A Survey of 450 Admissions, Psychosom. Med. **7**: 220, 1945.

4. For security reasons these figures may not be quoted.

A. *Definition of 'Psychoneurosis.'*—A person designated as 'psychoneurotic' is an individual who has an exaggeration of the feelings and bodily reactions found to some degree in every one. Thus, when some average individuals stand up to address a group they have a momentary feeling of insecurity and tachycardia; when facing a critical mission some are anxious and have to urinate and sometimes defecate frequently; during a perilous experience many individuals are tense and have periods of dyspnea and apnea; when life is threatened they are fearful, and they may vomit and sweat. Broadly speaking, 'psychoneurotic' patients differ from other persons in that these reactions are more readily precipitated and are more severe, persist longer and interfere with adequate performance. In those with so-called 'psychosomatic' disorders the bodily components of these general reactions dominate. The emotional accompaniments may not be easily discerned. In some instances the circulatory, glandular and smooth muscle reactions are so severe as to damage tissue and endanger life.

It is uncommon in the armed forces to find a soldier or sailor whose moods or attitudes alone bring him to the attention of the physician. The patient seldom complains of his anxiety, depression or resentment but commonly of his disorders of bodily function, chiefly substernal pain, anorexia, vomiting, stomachache, backache, headache or pains in the feet. For this reason the officer caring for medical and surgical patients, and not the psychiatrist, sees him first.

Even if the individual is aware of his emotion, he may not relate it to his bodily symptoms. He may feel angry but may not connect that feeling with the pounding of his heart or the burning in his stomach, or the lonely and overdependent individual may feel homesick but may not connect his feelings of bodily fatigue with his depression, or his loss of appetite with his feelings of loneliness and worthlessness.

Certain individuals can stand great hardships of one kind but may break under others. Thus, a man may stand military discipline well, may participate in engagements effectively but may 'break down' when he hears that his mother has died or that his wife has left him. Such a 'break' is most likely to occur if the man has felt that his mother, or his wife, was his only emotional support, the only one who really cared for him.

Personality and psychosomatic disturbances occur in individuals undergoing stress. Anxious individuals 'break' or become at least temporarily inadequate for the military situation more easily than others during physical stress. The inability to rest and to get adequate sleep, together with monotonous food or hunger, contributes to the 'break.' Likewise, infection and trauma weaken resistance. Some individuals of the strongest fiber have 'broken' under such conditions as existed on Guadalcanal: continuous threat to life, limited food, impossibility of resting or sleeping, having to engage in battle while ill with malaria, being bombarded while in the hospital.[5]

B. *The Role of the Nonspecialized Medical Officer.*—Attached medical personnel are in a better position to learn the psychologic aspects of the soldier's or sailor's complaints than are the officers in hospitals. The medical officer attached to troops lives with them. He is aware of the specific problems and difficulties in the 'outfit,' and he knows when rumors or 'high feelings' are causing upsets. These are reflected in the number and nature of his morning sick calls. He learns which men break down easily, who are chronic complainers, who have anxieties. He is in close touch with the line officers and can get information from them and give advice about the probability of 'breakdown' among the physically and emotionally vulnerable. He can evaluate a complaint in the light of the past history and service performance. He knows all these things before the patient begins to tell his story; the hospital specialist must discover them by questioning. The general medical officer sees him only after incapacitation, while the psychiatrist usually sees him when his breakdown is severe. The attached medical officer is thus the one who sees the patient when therapy can be most effective.

The average medical and surgical officer, even when he has had no special training in psychiatry, should be fully capable of doing this essential work. Continued observation, practice and occasional reading can give him understanding and skill. He does not have to be thoroughly conversant with the theories of psychodynamics any more than a surgeon or a physician has to have at his finger tips the latest facts and theories of physiology. Military physicians have an unparalleled opportunity to become acquainted with basic principles of the recognition and management of personality and psychosomatic disorders and to develop a skill that will make them of great value to the armed services and to the patients they will treat after returning to civilian practice.

Failure to recognize personality factors in disease results in needless and extensive investigation and hospitalization which not only put a strain on the medical corps and its facilities but also intensify and fix a neurosis.

The degree of psychologic disturbance precipitated by hospitalization or prolonged illness may be of such severity that it plays a major role in the course of an illness. A long convalescence increases anxiety and diminishes self confidence and desire to return to duty. Data to support the view that the patient's attitude is an important factor in determining the length of convalescence have been assembled by Powers[6] in a recent summary of his experience with surgical patients. In an experimental group of 136 as compared with a control group of 98 he found that patients who had had major abdominal operative procedures and who were allowed to become ambulatory one to three days after operation were able to return to work in approximately one-half the time required by those patients who were kept in bed the conventional number of days after operation. Postoperative complications were minimal and about the same in the two groups. Outstanding is the fact that the convalescent period was cut down by approximately one half.

Rusk[7] has demonstrated in a group of 645 patients from the Army Air Forces suffering from atypical pneumonia that an organized physical reconditioning and educational program shortened convalescence from an average of forty-five days with 30 per cent recurrences to thirty-one days with 3 per cent recurrences. A more recent study in the same branch of the services of patients with atypical pneumonia already on such an

5. Smith, E. R.: Neuroses Resulting from Combat, Am. J. Psychiat. **100**: 94, 1943.

6. Powers, J. H.: Early Activity of Postoperative Patients, Convalescence and Rehabilitation, Report 2, National Research Council, April 15, 1944.

7. Rusk, H. A.: Report on Convalescent Training in Army Air Forces Hospitals: A Summary of the First Fifteen Months Experience, Report of Baruch Committee on Physical Medicine, April 1944, p. 90.

accelerated program has been made by Karpovitch.[8] It was shown that when they were allowed to engage in 'stepping up exercises' within forty-eight hours of becoming afebrile, instead of after six days or more, the patients were able to leave the hospital in about one week less than the twenty-three days of the average hospital stay. It would seem probable that a major factor in this time saving is a difference in the attitude engendered in the patient by an awareness that his doctor looks on him as well enough to be out of bed and exercising.

Also the experience gained from patients with head injury has indicated that many of the symptoms of the post-traumatic syndrome are related to the anxiety engendered during prolonged bed rest.[9] It has become common practice to urge the patient to get out of bed as soon as possible, or as early as he desires, the inference being 'that not the least important point of the treatment is that the seriousness of the injury is minimized not only by the statements of the physician but by the permission for early activity.'

The problem of the duration of convalescence with patients in military hospitals is more difficult than with those in civilian hospitals. For a civilian, hospitalization usually means expense and no income; a serviceman has no such incentives to shorten his hospital stay. Remaining in the hospital means relative ease and protection to the soldier or sailor, while return to duty means hardship and danger. Therefore, unless vigorous measures are taken to counteract what is akin to a compensation neurosis, hospitalization is often unnecessarily prolonged.

Our prime purpose in this communication is to present ways and means of dealing with manifestations of personality disturbances that occur in association with infection, trauma and other bodily disorders. When recognized early, these are amenable to treatment and, indeed, to such treatment as can be given by the nonspecialized medical officer. In the following section methods of therapy are discussed.

C. *The Ward Round as Group Therapy.*—The ward round may be one of the most important prophylactic and therapeutic devices. It is a procedure that is a constructive influence on all patients, whether they are relatively healthy or seriously sick. It incorporates the elements of individual therapy as well as those special features which result from sharing experience with others, acting in a group.

The ward round is a poor time to discuss highly personal problems with patients, yet occasionally patients may be greatly aided when such problems are deftly and objectively dealt with in acceptable language. A patient may be desensitized or deconditioned by frank, open discussion and become aware that his problems are like those of his fellows. The medical officer may single out a cooperative patient and address advice to him which is meant indirectly for the whole group. Never should a patient be scolded or humiliated before the group.

On rounds the patient can be questioned not only about his complaints but also more thoroughly about any improvement he has made. It is easy to let the others know that a patient is better. Improvement may then become a community affair that reflects credit to the entire ward. The spirit of the group may become so infectious that even the most persistent complainer is caught by it. The bed patients become eager to get up and the ambulatory patients learn to look on discharge to duty as akin to promotion.

If the patients are in one large ward, the medical officer has the opportunity after rounds of talking to the group. He can make announcements of new hospital orders that affect patients, praise or criticize the work of ambulatory patients or read new assignment lists.

Such group instruction includes measures that medical officers routinely institute in the wards without thinking of them as 'psychotherapy.' The patient is made to feel that he is being given individualized and competent medical attention, that he is improving and that he will soon be well enough to return to duty or work. The patient is taught that he is useful and is given the incentive to regain his health. Hospitalization is allowed to symbolize neither pleasant freedom from the rigors of duty nor, on the other hand, a painful or disagreeable experience. The patient is not allowed to think of himself as inadequate or a failure.

All patients should be assigned to a duty in the ward as quickly as possible. This may vary from light assignments such as distributing thermometers to more strenuous work such as sweeping or carrying trays. These duties help the patient to regain confidence in his ability to perform work and emphasize the fact that he is an important and useful member of a community. Patients may be given daily group exercises in accordance with their physical status. The ward master can be placed in charge. Such calisthenics may take the place of the more strenuous games of the well soldier or sailor.

Two features should be stressed in the ward round. The first has to do with the patient's stay in bed. This is not to be considered as a harmless or neutral state. As has already been mentioned, unessential bed rest is a menace. It is well to become suspicious of each day in bed after the temperature is normal. Rules for making the patients ambulatory cannot as yet be laid down, but every day in bed should be a challenge to the physician. Secondly, because every patient must maintain the continuity of his life as a soldier or sailor by learning a new technic or developing an old one, it is during the ward round that the officer in charge can look for progress or work accomplished. The ward officer should make inquiry, examine, advise and encourage as to work done, topics covered and advances made. Such an attitude and behavior on the part of the physician emphasizes that the latter looks on illness as an interruption in the work of a man and not as an end state.

The attitude of the nurses and corpsmen toward the patient is almost as important as that of the ward officer. These assistants should be trained to be understanding and patient with the sick. This, of course, does not mean that a patient is to be allowed to overstep discipline. In fact, it is important that the patient always realize that he is subject to a modified military discipline. Otherwise, during a long hospitalization he may forget that he is a soldier and the return to the rigid discipline of military duty will come as a disagreeable shock.

The good effects of group therapy on the ward round will be enhanced if the medical officer is able to identify

8. Karpovitch, Peter: V. Communication to the Committee on Convalescence and Rehabilitation, National Research Council, 1944.

9. Spurling, R. G., in discussion on McKenzie, K. G.: One Aspect of the Posttraumatic Syndrome in Craniocerebral Injuries, Tr. Am. Neurol. A. **69**: 103, 1943. Shearburn, E. W., and Mulford, E. H.: Ambulatory Treatment of Cerebral Concussion, Bull. U. S. Army M. Dept., 1943, No. 69, p. 36.

those men who have moderate or serious personality and psychosomatic disturbances which are complicating convalescence from infection or trauma and to give them special attention. An awareness of the large number of these patients and the varied responsibilities of the busy ward physician led to an attempt to devise an 'index' or indicator to point them out. This instrument has been called the Cornell Service Index.[10] It is a paper and pencil procedure, is quick and reliable, is self administered, can be given individually or to groups of any size, can be completed in ten minutes and can be scored within one minute by a nurse or attendant. The 'index' identifies 92 per cent of the patients with severe personality problems and 13 per cent of the mild disorders. One per cent of ostensibly healthy persons will get an abnormal test score. After men who are most seriously in need of help have been recognized, individualized therapeutic measures may be instituted.

II. THE INDIVIDUALIZED MANAGEMENT OF PERSONALITY DIFFICULTIES

To facilitate the identification of those who are most in need of psychiatric appraisal and care, it is recommended that the Cornell Service Index be given to all patients who are capable of completing the procedure. The physician with limited time may concentrate his energies on those patients with scores indicating pathologic reactions.

Patients having symptoms of personality disturbances complicating their illness may be helped by five types of therapy: psychocatharsis, reassurance, explanation, rearrangement of the environment, and regimen. Although these five aspects of therapy will be described in sequence, as though one were to follow the other, no such order is indicated in actual practice. Indeed, reassurance can be given by the physician's first greeting to the patient if he is made to feel that he is an individual rather than a military number. Usually the physician during an interview gains information, allows catharsis, educates by interpreting the data to the patient, and thus reassures him that he is in contact with a sympathetic physician who has the patient's welfare in mind and who will do his utmost to better the situation. Further, the physician will outline a regimen for the patient's recovery, pushing him no more than he can tolerate, but yet with firmness pressing him to his capacity. All of these five steps may occur in one interview in quick succession and in any order.

A. *Psychocatharsis.*—By this term is meant that the patient is given an opportunity to 'talk it out,' describing his experiences and expressing his fears, resentments, frustrations and anxieties. The physician, in these circumstances, does little but lend an encouraging ear, interfering only occasionally. He may direct the flow or slow and divert it if his intuition tells him that the patient may suffer from the effect of too much self-condemnatory subject matter. Such catharsis is best carried on during the daytime. If it must be practiced at night the physician should from the start give a constructive turn to the discussion. Otherwise the patient may lose sleep and have increased tension and depression on the following day.

To induce catharsis, should it not occur spontaneously, the planned interview is valuable. It is convenient but not essential that this be based on the data assembled on the completed Cornell Service Index which has been given previously to all the patients in the ward. This procedure enables the physician to get necessary information and helps direct the interview constructively. Above all, the physician should aim to learn the attitude of the patient toward his significant answers on the 'index.' To do this the physician must listen attentively when the patient begins to talk about matters of personal importance. Such an interview may be based on the following questions:

1. What are the patient's complaints as indicated by his answers on the 'index' or in his initial conversation?
2. How long has he had them?
3. Has he had similar complaints or other complaints ever before in his life?
4. Under what circumstances did the complaints begin?
5. Is the patient anxious, worried, dissatisfied, angry, lonely? Does he mix well with other people or does he keep to himself? What does he dream about? Does he have nightmares?
6. What is the patient's family situation? Does he have financial problems? Does he feel homesick? Is he worried about wife, children, parents or siblings? Did any of them die? Are any of them sick? How did he react to their sickness or death?
7. Did he have a safe and good home as a child or did either of his parents die? Were they sick and nervous? Did the father drink? Did the home break up? Was he sent to an orphanage or a foster home?
8. Has he had sexual anxieties? What are the facts of his sexual experience and his attitude toward that experience?

The physician should observe the subject carefully during the interview and note whether he becomes anxious or angry, whether he becomes worried, whether his face flushes or turns pale, or whether his breathing becomes difficult. Such changes suggest that significant topics are being touched on. If the patient becomes disturbed, if his answers become evasive or if he says "Why do you ask me this? These are private and personal matters" the physician may explain what these topics have to do with the illness and assure him that the interview will be considered confidential. This may 'clear the atmosphere,' and the patient may be able to continue. If the topics are still too disturbing, it is best to let the issue slide. If one pushes too hard, the interview may have an untoward effect and instead of helping the patient may make him worse.

The physician must control his own emotional reactions and be careful not to reveal any impatience, disgust, anxiety or disapproval which he may feel.

B. *Reassurance and Suggestion.*—By this term is meant that the physician attempts to persuade the patient by presenting as many facts as possible, that the situation is not as ominous as it appears, that the patient is getting better, that the situation is well in hand and being well managed and that the outlook is good. Furthermore, through his manner and words the physician should suggest constructive or useful ideas and give the patient some conception of himself and his problems that will enable him to 'feel better' about his situation.

The patient is reassured by an opportunity to talk about himself to a sympathetic, understanding individual in a position of authority. This reinforces his self confidence, relieves him of his feelings of helplessness and makes him feel that he has received new strength. It is to be emphasized that the physician's

10. Weider, A.; Brodman, K.; Mittelmann, B.; Wechsler, D., and Wolff, H. G.: The Cornell Service Index: A Method for Quickly Assaying Personality and Psychosomatic Disturbances in Men in the Armed Forces, War Med. 7: 209 (April) 1945.

willingness to assume responsibility and to make decisions and his ability to radiate emotional support give his words a powerful, constructive force. Inversely, the physician's anxiety, procrastination and unwillingness to assume responsibility have an undesirable suggestive effect and undermine the patient's security. (See cases 5 and 6 under III B.)

C. *Explanation and Interpretation.*—By this is meant that the physician on the basis of his knowledge of the patient specifically, and of mankind in general, attempts to tell the patient in acceptable and understandable language what the situation is and what can be hoped for. He may give the patient an explanation of his symptoms and describe in simple terms the dynamics of bodily changes associated with fear, resentment, anxiety, frustration and dissatisfaction and so dispel misconceptions, ignorance, rumors, fears and discouragement. It is for this reason that a clear prognosis should be formulated promptly, stating what the worst to be expected is and what the best, and the proper steps involved in achieving a desirable outcome. Operative procedures should be preceded by a frank discussion with the patient concerning when he may expect to be out of bed. Besides interpreting symptoms the doctor may instruct the patient on the facts of mental life and attitudes. This aspect of the relationship can be given individually but may often be managed successfully in groups.

The doctor must never give the impression that he believes the patient's complaints are 'imaginary.' He must appreciate that the headache or the stomach discomfort is 'real' and then explain that these complaints do not start in the head or in the stomach but are closely related to the patient's experience in military service and to his attitudes in the existing situation. Finally, he must make it clear that the fears and dissatisfaction and loneliness are not caused by the headache or stomach trouble.

D. *Rearrangement of the Environment.*—By this is meant that the medical officer shows an awareness of the patient's problems and temperament and a desire to fit the individual into the situation in the military services for which he is best suited. It must be emphasized that an individual with rigid, fixed, uncompromising attitudes can never be properly placed and that the patient must understand his responsibilities when attempts are made to find a job for him. It should also be explained that no attempt will be made to ease his stay in the services. A rearrangement may lead him to a post which in the eyes of many is 'tougher' than his former one but only to give him work better suited to his needs.

On the other hand, it often becomes the medical officer's duty to explain to a disgruntled, resentful, misfitted soldier or sailor that his being in a job in which he cannot use his special training is due to a plethora of such specialists or to some uncontrollable military exigency rather than to indifference on the part of the service.

E. *Regimen.*—An ordered or organized program for convalescence is an age old and invariably useful therapeutic device. There is no instance in the history of therapy where a physician can be so wrong in one sense and yet so right in another bigger sense. The rationale of baths, physical therapy, occupational therapy, exercises, sports, competitive games and diets cannot be reduced to simple physical and physiologic terms alone. Feelings of security are engendered in patients by progressive procedures toward the goal of full recovery, provided each one is able to feel that the regimen has been carefully worked out and is being closely supervised.

Sports and games do improve circulation, but they also enhance skill and strength and induce 'fitness,' develop anew the feeling of being part of a team, arouse competitive interest, increase self confidence and aid in relaxation. Occupational therapy affords distraction, supplies variety to the day's activities and gives satisfaction when the assigned task is completed successfully. Physical therapy aids in relaxation and supports the conviction of being cared for.

Regimens of equal therapeutic value, if each has the enthusiasm of the directing physician, can result from diametrically opposed concepts of therapy. Thus, the patient may attribute his recovery to this or that diet, to 'electrical waves' or to specific arm or leg exercises, even though it might more properly be attributed to his improvement in morale. Such false attribution is of no major significance. It therefore becomes of utmost importance that the medical officer organize the step by step progression in the management of convalescence, using his imagination and whatever equipment is available as a means of engaging the individual in the process of resuming his life in the armed forces. A well planned regimen should also include arrangements for recreation.

The regimen should never be punitive. The routine should not purposefully be made disagreeable with the aim of making the patient return to duty in preference to remaining in the hospital.

III. VARIETIES OF PERSONALITY DISTURBANCES OCCURRING IN PATIENTS IN MEDICAL AND SURGICAL WARDS OF MILITARY HOSPITALS

In the aforementioned survey[3] of the incidence of personality disturbances among 450 unselected admissions to medical, surgical and orthopedic wards of military hospitals, these disorders were classified as follows: (A) preexisting personality disturbances aggravated by infection or trauma; (B) personality disturbances precipitated by or first becoming evident in association with infection or trauma; (C) personality disturbances in patients with serious defects in structure or function; (D) personality disturbances in patients without gross defects but with excessive complaints and disturbance of function; (E) trauma resulting from personality disturbances. These disturbances were unrecognized as factors complicating infection and trauma. The case histories which follow illustrate the types of problems and in some instances the operation of simple therapeutic measures.

A. *Preexisting Personality Disturbances Aggravated by Infection or Trauma:*

CASE 1.—A man with headaches following pneumonia feared that he had the same trouble as his invalid father.

A seaman aged 23 contracted pneumonia. He complained of headache, pain in the chest and cough. His temperature became normal in four days. His cough disappeared, as did his difficulties in breathing and the pain in his chest. His headaches, however, continued, and he experienced nausea and vomiting occasionally. Ten days after the onset of his illness, his lungs were completely 'clear' both on physical and on x-ray examination. Nevertheless the headache and the stomach complaints persisted. Neurologic electroencephalographic and spinal fluid examinations contributed nothing.

The headaches and the stomach complaints were severe and incapacitating and prevented his return to active duty. Further,

the patient worried about them and was becoming more and more anxious.

The following information was obtained from the patient in an interview. An abbreviated excerpt follows:

Physician: What is your complaint?
Patient: I have headaches. It gets me in this part of the head. It spreads all over.
Physician: How bad are your headaches?
Patient: They are pretty bad. When I get them I can't do any reading. My stomach is upset. I don't know what I get them from. (The patient's face showed anxiety.) I hope nothing is wrong with my brain.
Physician: Are you worried about these symptoms?
Patient: Well, yes. They just keep coming since I had the pneumonia. I don't know what is wrong with me.
Physician: Have you ever had them before in your life?
Patient: Yes, I had a little after my head was hurt three years ago. (The patient relates that he received a blow on the head by being thrown against the windshield of an automobile. It was not a severe blow. He was dazed and felt nauseated. Within the week after the accident his symptoms were gone except for slight headache.)
Physician: How are your parents?
Patient: My mother is well, but my father is sick. He can get about, but he had an accident fifteen years ago on the railroad. He hurt his head badly and was in the hospital. Since then he has been nervous. He gets bad headaches, and he can't eat the right food, and he vomits. I used to see him suffer; it upsets me quite a bit.

What had these facts to do with the present illness? The patient had been performing satisfactorily during his ten months of service. He liked his unit. When he became sick he had to leave his ship, and he was lonely without his comrades. He was eager to get out of the hospital as quickly as possible so as to be able to rejoin his ship before it left port.

It is to be noted that his first headache was an accompaniment of fever. However, during this depressed state the headache reminded him of his earlier head injury and aroused his old fears that he would have the same ailment his father had for so many years.

It was explained to the patient that his headaches were not due to damage to his brain but that they were connected with his anxieties about his father, himself and his unit. Assurance was given him that if he could dispel these anxieties his headaches would stop. He was also told that he should not brood but should take an active part in useful activity, such as reading about naval problems that interested him and acquiring new manual skills.

In a week the patient's headaches and nausea were gone, and shortly thereafter he returned to duty.

Case 2.—Pneumonia aggravated nightmares and 'nervousness' in a seaman whose ship had been torpedoed ten months previously.

A seaman aged 26, who had served effectively in the Navy for two years, participated in the campaign in the South Pacific, where his ship was torpedoed. Following this he experienced recurrent nightmares, jumped at sudden noises, had spells of shaking and trembling, was restless and dizzy and perspired excessively. However, he never reported these complaints. While in New York ten months later he developed pneumonia and was admitted to the hospital. The dizziness, lightheadedness, trembling and prostration were aggravated and prolonged his convalescence.

B. *Personality Disturbances Precipitated by or First Becoming Evident in Association with Infection or Trauma*

Case 1.—A man with nephritis following sore throat had resentment about sulfadiazine therapy and guilt feelings about gonorrhea, which he felt to be causative factors in his kidney disease.

A seaman aged 24, who had been in service for two years and had effectively participated in two major engagements, developed a sore throat. He was treated with sulfadiazine and was freed of his sore throat, but nephritis followed, and he complained of pain all over his body. Moreover, he felt guilty and worthless and was both fearful and resentful for the following reasons: he had contracted gonorrhea a year before the present illness, but despite the fact that he was cured in a short time he feared that his nephritis might be a result of the gonorrhea. He was resentful because he believed that his kidneys had been damaged by the sulfadiazine which had been given him for his infections. Explanation and reassurance dispelled this man's complaints.

Case 2.—A man with protracted convalescence following rheumatic fever feared serious complications because he had not been kept in bed long enough.

A private aged 21 with six months of service entered the hospital with complaints of joint pains and fever. A diagnosis of acute nasopharyngitis was made. The symptoms persisted, and acute rheumatic fever was diagnosed on his fourth hospital day. He was transferred to a general medical ward and kept at 'absolute bed rest' for eight weeks. During the last two of these his temperature, pulse rate, electrocardiogram and sedimentation rate returned to normal, and all pains were gone. He was then allowed out of bed, but, instead of continuing to improve, he complained of extreme fatigue, palpitation, dizziness and joint pains. These symptoms increased in severity until by the end of two more weeks he had become unable to get around and had taken to bed. Laboratory and physical examinations showed no evidence of exacerbation of the rheumatic fever. Symptoms were far out of proportion to demonstrable effects of the acute phase of the disease or the inactivity of 'complete bed rest'.

During an interview with the medical officer the patient asked about the rheumatic fever ward. He had heard that there was a special ward in the hospital for patients with acute rheumatic fever. He wanted to know how that ward was different from his, and why he had not been sent there. He asked how serious his disease was, because he had a cousin who became an invalid following rheumatic fever. A specialist had once said that this cousin should have remained in bed for a longer time during the acute attack. The patient expressed considerable anxiety about the seriousness of his own disease and his chances of recovery.

The medical officer assured him that his disease had been mild and left no ill effects. The patient was then transferred to the rheumatic fever ward, where a planned system of work therapy and group psychotherapy was in effect. Within three weeks the patient had been relieved of his anxieties and become completely ambulatory. A short time afterward he was feeling fit and had no complaints.

Case 3.—Feelings of anxiety, insecurity and failure in an athlete following a broken leg.

A private aged 24, in service for nine months, fractured his right ankle while jumping over a ditch during maneuvers. The injury was a simple fracture of the tibia without complications and mended rapidly. However, he became restless and agitated, slept poorly and lost his appetite. His first attempt to use his leg was awkward and painful, and he said that his fears were confirmed that he would never be able to walk again without pain and a limp. He avoided using his leg, used it poorly when he did, and thus prolonged convalescence. As a child he had been sickly and unable to compete in games. By dint of great perseverance and effort he overcame his 'weakness' and became a successful athlete, frequently winning races. The fracture of his ankle returned this man to the insecure state of his childhood, and he feared that he would again be unable to hold his own or to compete. Repeated reassurance about the good condition of his ankle dispelled his anxiety and encouraged him to walk.

Case 4.—A sailor who had had three minor traumas of his left leg developed a serious limp following pneumonia.

A sailor aged 21 recovered quickly from pneumonia but his convalescence was prolonged because he limped on his left leg, which he held rigidly extended at the knee. At the onset of the pneumonia he had fainted and had bruised the skin over his left hip in falling. At the end of a week no superficial or deep tenderness remained in the area, and there was no evidence of injury to nerve, muscle or bone to account for the halting gait. A diagnosis of hysterical limp was made.

Six months prior to this illness the sailor during a naval engagement had received a superficial wound in the left calf, so slight as not to require hospitalization. This was followed by a limp. Again, three months later, a heavy swing gun hit him on the left thigh, resulting in a painful contusion which incapacitated him for two weeks. Following his recovery he had a limp

which prevented his climbing ladders, but he remained on duty and his performance was effective.

It was learned that at the age of 16 the patient had been gored by a bull in both thighs and the left groin. He fully recovered from the accident after two months' hospitalization, but he walked with a limp for a short time. The man was given an opportunity to talk freely about his dislike for the Navy, his homesickness, his resentments and anxieties which had become focused in his complaint by the series of minor accidents to his left leg. Within a short time his gait became normal and he was returned to duty.

CASE 5.—Following a minor head injury and exposure to the care of an anxious, oversolicitous physician, an effective sergeant developed a post-traumatic neurosis.

A WAC sergeant aged 24 had been in service for about two years. She had adjusted well, had shown special aptitudes for army work, and had been steadily promoted. While performing her duties she slipped on the ice and struck her head. She was unconscious for a 'few minutes' and was immediately hospitalized. The ward officer kept her 'flat in bed' for ten days. On her way to the latrine on her second day out of bed she felt 'dizzy' and fell. The ward officer exhibited great concern and kept her in bed for a period of another two weeks. After she was again allowed to get out of bed he left strict orders that under no circumstances was she to walk anywhere without a nurse or attendant at her side. This regimen was kept up for the rest of her convalescence in the hospital, a matter of three weeks. During this time she experienced more dizziness and headaches of increased severity. She was given leave to go home but returned to the hospital in a short time, stating that she was afraid of venturing from her bed or room unescorted, because when walking alone she felt extremely dizzy and faint. She could not care for herself. The patient was discharged from the Army with the diagnosis of post-traumatic concussion syndrome.

CASE 6.—An able young officer experienced a minor injury or infection of the shoulder, which because of the undesirable suggestions of the medical officers became the basis of incapacitating hypochondriasis.

A young, high ranking officer had distinguished himself from his student days at West Point. He was highly esteemed by his colleagues and superiors, and his prospects for the future as a soldier were brilliant. He developed shoulder pain while on duty at one of the Pacific outposts. Hospital facilities for complete diagnosis were not available. The medical officers on the island had great concern about the implications of the pain which the officer experienced. They left him with the impression that it might be the result of either a 'severe cardiac condition,' 'severe avitaminosis' or 'some nerve or spinal disease.' He was given many injections of thiamine hydrochloride. The anxiety and uncertainty of the medical officers in relation to the diagnosis and the possible outcome of the disease were transmitted to the patient. He developed severe hypochondriasis, which incapacitated him.

The patient was ordered back to the United States, where a thorough investigation was undertaken. The fact that tests revealed no disease, coupled with the explanation that he had no structural defects, was sufficient to relieve his anxiety, and all hypochondriacal symptoms disappeared. He was able to return to full duty.

C. *Personality Disturbances in Patients with Serious Defects in Structure or Function*

CASE 1.—A seaman condemned himself for his anxieties and fears following the torpedoing of his ship and lost 30 pounds in weight.

A seaman aged 30 effectively participated in several engagements without injury to his vessel or to himself. In the last engagement his ship was torpedoed and sunk. From that time he had nightmares and trembling. He was restless and anxious, and he complained of dizziness. His symptoms gradually became worse. He lost 30 pounds (13.6 Kg.). He was admitted to the medical ward, where no infection, new growth or endocrine disorder could be found. It became apparent that his loss of weight was the result of his loss of appetite and deficient food intake, associated with anxiety and tension, which the patient did not wish to acknowledge. He experienced fear in connection with the sinking of his ship. He was a man of excessively high personal standards and considered himself worthless if he sought help for his anxieties and fears. Thus he was in conflict. He was afraid and wanted safety, but he condemned himself for his weakness. He tried to carry on without help, but his symptoms persisted. He felt helpless. After thorough discussion of these factors, his appetite and body weight were restored.

CASE 2.—A conscientious, hard driving engineer was anxious about his family and resentful about his assignment and developed a duodenal ulcer.

A noncommissioned officer aged 35 was admitted to the hospital with pain in the abdomen, which had its onset about two hours after meals. X-ray examination established the diagnosis of duodenal ulcer. The patient had been for many years a conscientious, ambitious, hard driving individual. He aimed to do his job not only well but flawlessly. He worked effectively in the Army as an engineer. He was, however, very much concerned about his family because the members could not live as well after he entered the service as before. He felt that he should have provided better for them. He was also worried about his health. His stomach complaints appeared when, instead of getting a leave as he had expected, he was transferred to an urgent job. He was resentful and disappointed and worried all the more about his family and about his new job. It was in this setting that his complaints began. The management of his illness had of necessity to include consideration of his personality problems.

CASE 3.—A soldier in Officer Candidate School, who felt pushed into assuming responsibilities that he feared and disliked, developed dizziness, headache and arterial hypertension.

A soldier aged 33 had ten months of service and was completing his third week of training in Officer Candidate School. He reported sick with complaints of dizziness, pains and throbbing of the head, continual buzzing in his ears, weakness, tachycardia and palpitation. The complaints had persisted for one month and were increasing in severity. A moderate hypertension was present, varying between 140 and 150 systolic and 90 and 95 diastolic. The patient stated that his blood pressure had always been about 120/80. The rest of his history and physical and laboratory examinations were negative. He was in the hospital for consideration of discharge from the Army. When the patient first reported his complaints and the hypertension was discovered, it was inferred that the symptoms were caused by a rapidly developing hypertension with associated cardiac strain and encephalopathy. Physical examination revealed no cause for a rising blood pressure.

It was noted that the duration of symptoms corresponded approximately with the length of time that the soldier had been in Officer Candidate School. He was therefore asked how he liked the school, what his reactions were toward becoming an officer and about his family, previous profession, schooling and general likes and dislikes. He said that he disliked Officer Candidate School intensely, that it made him 'nervous' and that he constantly worried about assignments and examinations until he developed insomnia. He was afraid to assume the responsibilities of an officer and had applied for Officer Candidate School against his own wishes and only because his commanding officer had insisted that he was good officer material. 'I was afraid to tell any one that I wanted to quit school.' He had graduated from college and for many years was the assistant buyer in a firm owned by a relative. He was single, an only child and had always lived at home with a strong willed and efficient mother, who completely controlled the home. 'She was a very sensible woman and she's always given me good advice.' He liked to be with people who were firm. 'I don't have to worry about what to do.' He disliked to assume responsibility. 'I'm very conscientious and I worry about whether I know enough to do a good job.'

This soldier had an excessively dependent personality, and attending Officer Candidate School and the thought of being a leader of men in a position of responsibility created considerable anxiety. Inquiry made it obvious that his personality was an important factor in the production of his symptoms. The suggestion was made that he resign from school and return to his

outfit, where rapid advancement to his previous grade of sergeant was almost assured. After a few days he accepted the suggestion and resigned from Officer Candidate School. He was seen several times in the next few months. Back again in his old post his symptoms disappeared and his blood pressure became stabilized at the previous level of 120/80 to 130/85. He became cheerful and his anxieties lessened. He said 'Going to Officer Candidate School was just like a bad dream.'

D. *Personality Disturbances Without Gross Defects But With Excessive Complaints and Disturbance of Function*

CASE 1.—A timid man, overdependent on his mother, had burning in his stomach, aggravated by his military experience.

A private complained of gas, pain and burning in the stomach after eating. He had been in the Army for three months, and during this time these complaints were persistent and had become incapacitating. He said that he had to be on a special diet consisting only of milk, white bread and vegetables. He was frightened on the rifle range, had fallen out of marches five times and developed panic at hearing noises when he had to stand guard at night. On physical examination no structural defect was found. It was revealed that he had complaints of a similar kind for at least six months before entering the Army. He had always been overdependent on his mother, had 'never been away from home' and never ate in a restaurant because it 'made him sick.' At the end of three months this man had still not adjusted himself to military life. The prognosis as regards usefulness in the Army appeared poor, and no therapeutic efforts on the part of the medical officer would be likely to result in a return to duty.

CASE 2.—An ambitious noncommissioned officer developed pain in the legs when faced with competition and possible demotion.

A soldier aged 28, with twenty-two months of service, had spent most of the last six of these as a patient in the hospital. He first entered the hospital with complaints of a few weeks duration of swelling of the lower extremities and pain in the legs on standing and walking. He had never had these complaints before; during sixteen months in the Army he had reported only two or three times for sick call. The pains incapacitated him so that he could only hobble about. He never took an unnecessary step and while in the hospital refused all passes to visit the post exchange, his friends or town. In the short periods when he was returned for trial of duty his officers reported that he would do what he was told without complaint but with such obvious difficulty that he was relieved of duty. He impressed his officers and the medical officers alike as being willing and eager to work yet physically incapacitated. During his hospitalizations he was subjected to thorough examination and laboratory investigations, but nothing was found to explain his complaints. The edema of which he had complained was never observed by any medical officer. The long period of hospitalization finally caused him to become dejected and dispirited. He expressed unhappiness over the fact that he could no longer work and that he was a burden to the Army instead of a help.

The soldier had been drafted in one of the first contingents of troops and because he showed some ability to drill recruits he had been put in a permanent cadre in a training camp. He was promoted until he became a platoon sergeant and would have gone higher except for his lack of education and inability to do paper work. Shortly before his hospitalization new men had been attached to his company, some of whom showed greater ability than did the patient. His commanding officer told the medical officer that 'This man is good but some of the men we now have are better.' His company commander let him know that he would probably be replaced by one of these men. At that point the patient had first reported for sick call with complaints of pains and swelling that prevented his performing his duties. He said that he had always been ambitious but that the lack of education had kept him from realizing his ambitions, that he derived great personal satisfaction from being a noncommissioned officer while men with more education were only privates, and that the threat of reduction in grade made him feel a failure. He said that it would have been extremely painful for him to write home to his wife that another man had proved better than he was. He admitted that his reduction in rank occurred while he was a patient in the hospital and not while on duty, because he was able to say that it was done because he was sick. His wife was a college graduate and had for many years run and owned a successful beauty shop from which she earned much more money than the patient.

After this interview steps were taken to get the soldier to assume a healthier attitude toward his demotion. Also arrangements were made for transferring him to a new outfit then being formed, in which he had a chance for promotion. He was encouraged to go back to duty; an interview was arranged with his new commanding officer, who told him that if he worked hard he would be promoted. It was explained that he might have trouble with his feet for a while but that the condition would gradually get better; he was complimented on his upstanding character and military bearing and in other ways urged to think of himself as a success rather than as a failure. After this therapy by encouragement, suggestion and adjustment of the environment, the soldier was discharged back to duty. He was seen occasionally during the next four months, during which time he regained self confidence and was promoted to corporal. After the first few weeks his complaints of pain and swelling of the feet ceased and he was able to perform all his duties. He talked with enthusiasm of his new unit and the chance of being promoted to sergeant.

E. *Trauma Resulting from Personality Disturbances*

CASE 1.—A man who walked in his sleep fell out of his bunk and broke his leg.

A private aged 21 had since puberty been sleep walking about once every two weeks. One night about two months after joining the Army, during somnambulism, he walked out of the upper bunk he was occupying and fell, fracturing his femur. This was the first serious injury he had sustained while sleep walking. On previous occasions while sleeping on a cot or lower bunk he had received contusions and abrasions.

IV. PREVENTIVE MEASURES

As indicated in the foregoing case notes, convalescence may be significantly shortened by simple procedures if the existing disturbance is not too severe or long standing. Moreover, by attention to the attitudes and feelings of healthy trainees, Cohen [11] has been able to reduce materially the incidence of hospital visits and to increase the effectiveness of a carefully controlled group of soldiers. Two companies were chosen at random, both filled at the same time and composed of men of approximately the same age and social and economic experience. The experimental group was exposed to four talks on consecutive days of their basic training, which covered (1) natural civilian resentments of army life, (2) regimentation, (3) fear and (4) a summary of all adjustment factors.

Beginning on the first day on which these companies filled and on which the talk began, a record was kept of all sick calls and hospitalization until both companies completed their basic training. The following was noted: There were approximately three times as many sick calls for psychosomatic symptoms in the control group, and between ten and eighteen times as many hospitalization days for psychosomatic symptoms in the control group, as in the experimental group. Also time lost by AWOLs in the control group was twenty times greater than in the experimental group. Finally, performance grades of the experimental group were slightly higher than of the control group.

Another example of what may be achieved by the simplest procedures aimed at the problem of adjustment in the armed forces is as follows: In the station hospital of one of the training camps there were several

11. Cohen, R. R.: Mental Hygiene for the Trainee, Am. J. Psychiat. **100**: 62, 1943; Factors in Adjustment to Army Life: A Plan for Preventive Psychiatry by Mass Psychotherapy, War Med. **5**: 83 (Feb.) 1944.

general medical wards and no general medical clinic for ambulatory patients. It was found that many patients in these wards had complaints based on poor adjustment to military life with resultant fears, anxieties, resentments and frustrations. There was instituted a general medical clinic to screen out other such patients before admission to the hospital. At first the medical officers working in the clinic objected to it on the grounds that the patients were not like those who had previously been admitted to the general medical wards; they were not 'medical' but should have been sent to the 'NP' clinic instead. Within six months, however, the number of general medical wards had been greatly reduced. During this time the Army personnel at this camp had not been decreased in number, nor had the special medical wards or the 'NP' wards increased in number or size. This was accomplished because the officers working in the clinic were able to give prompt attention to complaints and provide reassurance and instruction, and because they realized that often individuals with personalities with high neurotic potentiality deteriorated while in the hospital. Furthermore, they appreciated that their own hospital patient load decreased if they were able to keep more soldiers on duty.

In the outpatient clinic of the same hospital, special attention was given to the individuals with complaints referable to the heart but without evidence of structural defects of the heart. All patients found on examination to be in this group were given group psychotherapy by the cardiologist. The number of return visits was reduced to about half within two months of the time of establishment of this psychotherapeutic clinic.

The value of information in preparing men for adverse circumstances is shown by what can be accomplished in filariasis and malaria. As indicated by Rome and Fogel,[12] filariasis is dreaded by troops in tropical climates because they have ample opportunity to see bizarre end results which involve the sexual organs, because it is generally known that there is as yet no satisfactory therapy, and because symptoms and signs of infection are often delayed and insidious in onset. Therefore, infection with filariasis in almost all patients is complicated by fear of sterility, disfigurement of their reproductive organs and of impairment of sexual function. Impotence, so common in anxious persons, therefore, frequently results.

Group instruction in simple terms, concerning the pathology of this disease, supplemented by illustrations and diagrams, can do much to allay fears of disfigurement, impotence, sterility or genital transmission. Instruction on the relation of impotence to anxiety obviates many false conclusions.

Apprehensions about malaria also exist and can be satisfactorily managed by group instruction as to what the disease will and will not do.

V. REHABILITATION

Soldiers who are about to be discharged with a Certificate of Disability have their eagerness to return to their families overlaid with a hesitancy in leaving the Army and a sense of personal failure and inadequacy. This is especially noticeable in those individuals with disability acquired in line of duty. The optimum time for restoring to these men their self respect and self confidence is during this last period of army hospitalization. The family's interest and understanding in such a program is of prime importance. Any effort in this direction is sure to pay dividends by enabling soldiers to become productive citizens rather than dependent pensioners of the Veterans Administration.

12. Rome, H. P., and Fogel, R. H.: The Psychosomatic Manifestations of Filariasis, J. A. M. A. **123**: 944 (Dec. 11) 1943.

INTRACTABLE AMEBIC COLITIS

WITH SPECIAL REFERENCE TO THE ULCERO-NECROTIC FORM

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Amebiasis is far more prevalent in the United States than is generally appreciated. Although areas of hyperendemicity, such as are present in the Orient and tropics, are not found in this country, the states bordering the Gulf of Mexico may be generally considered as comprising an endemic area, and sporadic cases have been observed over the entire country. In New Orleans alone it has been estimated that the protozoon is harbored by close to 15 per cent of the general population. Most of these cases are symptomatically below the clinical threshold.

Amebic colitis exists as a pathologic entity without the classic picture of dysentery in a high percentage of the cases. Liver abscess, percentage wise, is relatively rare. The symptomatology varies from mild, rare, abdominal discomfort and constipation to acute abdominal pain of the most extreme degree and uncontrollable diarrhea; the duration may range from a few days to many years. The disease often simulates other abdominal conditions so closely that patients undergo laparotomy for such presumptive diagnoses as chronic cholecystitis, appendicitis, pancreatitis and intestinal obstruction. There is great variability in response to therapy. Whereas a long standing case may respond rapidly, a case of relatively short duration may prove resistant. These intractable cases may present vicissitudes of activity for great lengths of time. For example, we have seen cases of uncomplicated amebic colitis with histories of thirty years' duration. There may be great clinical improvement following therapy, with disappearance of amebas from the stools for a short period of time. Apparent improvement in the condition of the bowel is visualized by proctoscopy. The history frequently obtained is one of symptomatic remission for days, weeks or months following exhibition of one of the so-called amebicides. Then follows relapse, which persists until chemotherapy is reinstituted. Recurrent attacks may be relieved by repeated courses of the same drug. Some cases show no improvement whatever after trials of all the known antiamebic drugs, but this is unusual. The pathologic picture varies from patient to patient and may vary in the same patient at different times from a few widely separated, slightly undermined ulcers to a sloughing, necrotizing, serpiginous generalized ulceration of the entire colon. Furthermore, granulomatous tumors of amebic origin may be encountered anywhere in the large intestine.[1] The factors underlying the change from one state to another in a single individual have not been determined but may

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1. Silverman, D. N., and Leslie, A.: Gastroenterology **4**: 53 (Jan.) 1945.

be various. It is apparent that amebic colitis is a disease of protean nature, which may present either classic dysentery or vague symptoms, barely suggestive. As Faust [2] pointed out, cases with acute fulminating symptoms commonly occur in outlanders becoming infected in hyperendemic areas, where among the natives the incidence of infection is high and the incidence of clinical symptoms low. Cases of chronic nature, on the other hand, may be seen anywhere, as are cases manifesting acute exacerbation of the chronic state. The latter type may follow superinfection with a more virulent strain of ameba or with a strain of the dysentery bacillus. This may have been the circumstance in 2 of the cases being presented here.

REPORT OF CASES

CASE 1.—*Acute fulminating amebic colitis, ulceronecrotic form.*

History.—N. H. T., a white man aged 32, a salesman, was perfectly well until two weeks before admission to the hospital, when while at a hotel in Mississippi he developed abdominal cramps and diarrhea. He became progressively weaker, losing weight, passing fresh blood in his stools and having continuous fever up to 105 F.

Examination.—The patient was acutely ill, dehydrated and emaciated. There was diffuse abdominal tenderness, most pronounced in the left lower quadrant. The pulse rate was 100, the blood pressure 110 systolic and 76 diastolic. Proctoscopy revealed a diffusely necrotic, sloughing and ulcerated mucous membrane.

Urinalysis showed a trace of sugar on one examination. The erythrocyte count dropped from 4,300,000 to 2,200,000 per cubic millimeter, hemoglobin from 75 to 70 per cent. The leukocyte count was 8,750 per cubic millimeter on admission and 7,500 per cubic millimeter several days later, with a normal differential count. No malarial parasites were seen. The blood Wassermann test was negative. Agglutinations for typhoid, paratyphoid and dysentery organisms were negative. Scrapings obtained proctoscopically from the bowel wall were negative for amebas.

Course.—Six days after admission the patient passed a large tissue slough by rectum, reported as "necrotic tissue; normal histology destroyed; most probably sloughed mucosa with large amount of mucus."

The patient's temperature ranged up to 101.6 F., pulse to 120, and respirations between 30 and 35 per minute. Despite infusions and transfusions the downhill course was rapid, and the patient died ten days after admission.

Autopsy.—Gas, fluid and feces were found free in the peritoneal cavity. There were many small and large intestinal adhesions. There was a perforation of the cecum. An 18 cm. section of the posterior wall of the transverse colon was completely missing, presumably sloughed out, being replaced by loops of small bowel. The anatomic diagnosis was rupture of the ascending colon in the region of the cecum; complete sloughing of the wall of the transverse colon; intense ulceration of the whole colon suggestive of bacillary dysentery; acute inflammatory hepatitis; general peritonitis; acute toxic splenitis; acute toxic nephritis. Microscopic sections revealed the presence of amebas in all the layers throughout the entire colon. Culture from the bowel revealed the presence of a gram negative rod, which was agglutinated by known Flexner serum in dilutions up to 1:320.

CASE 2.—*Acute exacerbation of chronic amebic colitis, ulceronecrotic form.*

History.—R. D., a white woman aged 55 whose appendix had been removed twelve years before, had generalized abdominal pain and diarrhea with fever to 101.6 F. for about one year. The symptoms became aggravated one week before hospital admission.

Examination.—The patient was moderately obese, acutely ill, with diffuse abdominal tenderness. Proctoscopy revealed a necrotic, sloughing and ulcerated mucous membrane.

Hemoglobin was 62 per cent (9.7 Gm.). There were 4,000,000 erythrocytes per cubic millimeter. The leukocyte count was 8,750 per cubic millimeter, with normal differentiation. Agglutinations for typhoid, paratyphoid and dysentery organisms were negative. Serum proteins were 4.63 Gm. per hundred cubic centimeters. Chest x-ray and gastrointestinal x-ray studies showed no abnormality. Culture of bowel scrapings revealed the presence of Bacterium dysenteriae (Duval). Direct examination of the scrapings showed no amebas.

Course.—Despite infusions and transfusions, the patient became progressively worse and died six days after admission to the hospital.

Autopsy.—There was pronounced edema and reddening of the mucosa of the lower half of the ileum. The distal foot of the ileum showed occasional shallow ulceration. The ileocecal valve was almost completely occluded by much induration and fibrosis in a submucosal pathologic process, which extended from the large bowel side. The wall of the colon was decidedly thickened and, except for an occasional patch of red edematous mucosa, had been completely undermined by what grossly appeared to be a submucosal acute and chronic cellulitis that had been existing for a long time. The mucosal surface was lost only in the lowermost portion of the bowel (approximately the distal 6 inches), where the ulceration presented no typical gross character. The transverse and sigmoid mesocolon and the pericolic fat were thick, indurated and fibrosed.

Several microscopic sections through the gastrointestinal tract, particularly the colon, showed many large areas of necrosis of the mucosa with ulceration, the necrosis being of an undermining nature and tunneling under the mucosa for long distances. In the mucosa and submucosa predominantly, but found in the muscularis as well as in the subserosa, there were innumerable trophozoite forms of Ameba histolytica. Some of these amebas showed ingested red blood cells. The inflammatory reaction present was mostly of subacute and chronic nature, there being considerable thickening of the intestinal wall. In this area some of the amebas were noted within the lumens of the small lymphatics and vascular spaces. Some of these vessels were thrombosed.

Heart blood culture gave no growth in ninety-six hours. Culture from the bowel wall yielded no pathogens. Direct scrapings showed no amebas or fungi.

CASE 3.—*Ulceronecrotic amebic colitis.*

History.—L. M. W., a white man aged 68, under radiotherapy for carcinoma of the bladder, was admitted to the hospital with a history of bloody diarrhea two months previously, at which time proctoscopy showed a condition described as "colitis or proctitis." During the three days preceding admission there were frequent soft black stools, nausea, weakness and one episode of vomiting.

Examination.—Aside from the appearance of chronic and acute illness, this was not remarkable.

Urinalysis was negative except for a trace of sugar and a few pus cells. There were 3,490,000 erythrocytes per cubic millimeter, with 60 per cent hemoglobin. There were 6,000 leukocytes per cubic millimeter, with normal differentiation.

Course.—The patient's temperature ranged up to 102.4 F. There were many soft stools containing blood. The course was progressively downhill, and death took place seven days after admission.

Autopsy.—The colon was adherent to the surrounding structures. There were many areas of necrosis but no area of complete perforation. The mucosa was destroyed by ulceration which involved the entire bowel including the cecum and the rectum. Microscopic examination showed degeneration of the mucosa with extension of the process to the submucosa, with edema and lymphoid and plasma cell infiltration and areas of necrosis in the submucosa. Many amebas were seen in the necrotic zones. The bladder showed a few areas of degenerating

2. Faust, E. C.: Some Modern Concepts of Amebiasis, Tr. & Stud., Coll. Physicians, Philadelphia **11**: 101-113 (Dec.) 1943.

neoplastic cells, and the prostate showed a gland cell type of carcinoma (Broders' classification 2). Mucosal scrapings of the colon revealed the presence of motile amebas.

COMMENT

In 1937 Niño [3] reported a case of "ulceronecrotic intestinal amebiasis with amebic tumor of the cecum and ascending colon" which prior to pathologic examination was thought to be tuberculosis. Death with peritonitis followed resection of the ascending colon. A second small mass was noted at the splenic flexure. It is felt that although the term "ulceronecrotic" has excellent descriptive qualities, it should preferably be reserved for the pathologic picture as seen in the 3 cases presented in this paper. In Niño's case and in other cases of similar nature amebas have been demonstrated in the granulation tissue comprising the granuloma and in the necrotic areas of amebic ulcerations. In cases 1 and 2 the trophozoites of Endameba histolytica were demonstrated in all layers of the colon, from mucosa to serosa. Figures 1 and 2 are sections made through two widely separated areas of the colon in case 2. Figure 3 is a high power magnification of an area of deep amebic penetration visible in figure 2. In the

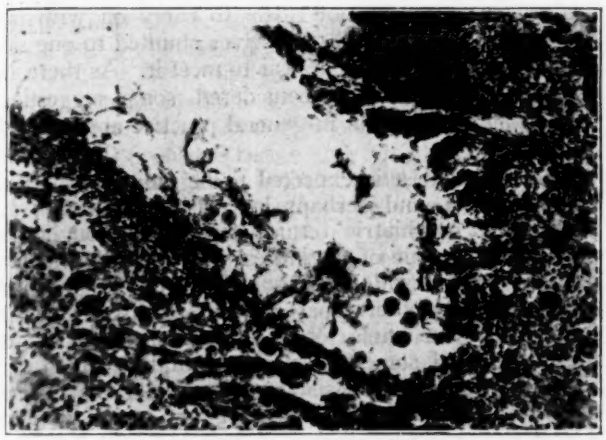

Fig. 1.—Deep ulceration ot colon, showing amebas in the crater and in the necrotic granulation tissue forming the base of the crater; complete destruction of mucous membrane.

third case there was demonstrable extension to the submucosa. There was nothing remarkable in the nature of the pathologic change, which after all was classic for the disease. The unusual feature, however, was the involvement of the entire colon in an ulceronecrotic process. In the past this extensive process has rarely been observed in this country. According to the following memorandum from Dr. E. C. Faust [4] it has occurred in hyperendemic areas, such as China and the Philippines:

Three cases of fulminating dysentery, admitted to the medical wards of the Peking Union Medical Hospital, Peking, China, in October 1922, were of special interest because of the prostration of the patients on admission. Two were native policemen and one a shopkeeper. All were given a presumptive diagnosis of bacillary dysentery, but laboratory examination of the freshly passed stools proved them to have amebiasis and to be negative for Shigella organisms. Following specific diagnosis all of the patients were placed on yatren (i. e. chiniofon), which had been discovered in 1921 and was being given clinical trial. One of the patients responded well and was soon convalescing. The other two developed deep ulcerations of the colon, which perforated. Death ensued in one case in forty-eight hours, in the other in about five days.

Similar observations were apparently not infrequent in the early days of American occupation of the Philippines and in Panama before 1915.

Cases 1 and 2 were complicated by the presence of dysentery organisms, Flexner in one case and Duval

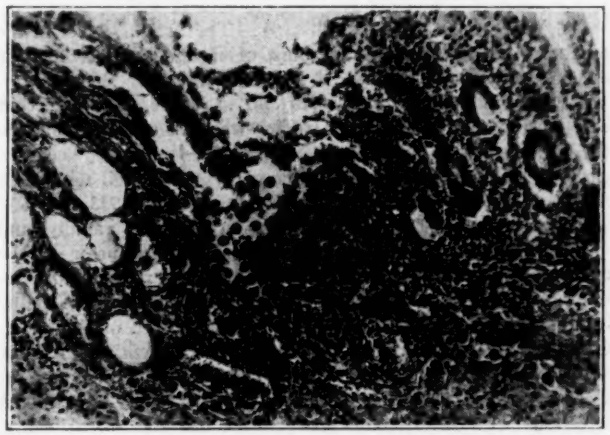

Fig. 2.—Section through colon showing partial destruction of the mucous membrane and penetration of amebas into submucosa and muscularis, with associated inflammatory reaction.

in the other. It is possible, although not necessarily probable, that this combination of pathologic processes results in the diffuse ulcerating and necrotizing process which in one case caused a major slough of the transverse colon and in the other a large mucosal slough of the rectosigmoid. Faust [2] mentioned combined amebic and Shigella colitis without emphasizing any particular pathogenic summation.

Case 3 did not present the striking findings of cases 1 and 2, but the fact that the entire colonic mucosa was

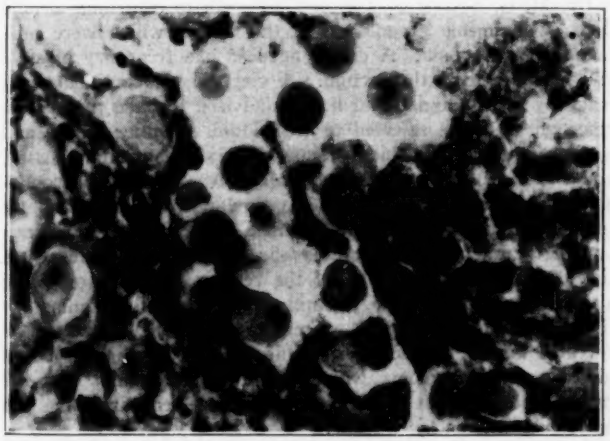

Fig. 3.—High power magnification of an area of figure 2 showing presence of many trophozoites of Endameba histolytica.

destroyed by the ulcerative process warrants its inclusion here.

Although cases of this type have been uncommon heretofore in the United States, an increase in incidence may be foreseen for two reasons:

1. The local dissemination of the disease.

2. The importation of virulent strains of amebas from the oriental and tropical war theaters.

3. Niño, F. L.: Amebiasis intestinal ulcero-necrotica y tumor amebiano del ciego y colon ascendente, Novena reunión Soc. argent. de pat. reg. 2: 813-843, 1937.

4. Faust, E. C.: Personal communication to the authors.

SUMMARY

In 3 cases of ulceronecrotic amebic colitis the unusual feature common to all of them was the extensive nature of the pathologic process, heretofore a rare finding in the United States, but apparently more common in hyperendemic areas, such as China and the Philippines.

ABSTRACT OF DISCUSSION

Dr. Walter L. Palmer, Chicago: The first essential in the diagnosis of amebiasis is to think of it and to look for the ameba. Amebiasis is present in all sections of the country. Drs. Silverman and Leslie report an incidence of 15 per cent in New Orleans. In various studies we have made in Chicago the incidence has been lower, from 2 to 4 to 6 per cent of carriers, and I think that figure compares quite well with most figures in Northern cities. After the epidemic of 1933 and 1934 in Chicago the incidence of amebiasis dropped rapidly and quickly returned to the level which had existed prior to the epidemic. Most severe cases of amebic colitis respond to emetine and chiniofon or vioform. The most essential point in the treatment of the chronic cases is the continuance of treatment. Often a patient is treated for a few weeks with temporary recovery and then the treatment is dropped and in the course of a few months the disease recurs. Not only do we have mixed infections with the dysentery organisms but also, occasionally, hemolytic cocci. Gonzalez and Vejar of Mexico City have recently reported a case of fulminating amebic dysentery, complicated by staphylococcic hepatitis, treated with penicillin with dramatic recovery. There are occasionally cases in which one finds amebas and sees a typical proctoscopic picture of nonspecific ulcerative colitis in which the diarrhea and the proctoscopic findings persist after intensive amebicidal therapy and when amebas cannot be demonstrated, even on repeated examination, in the stool. None of our cases of this type have come to autopsy. The relationship between the two conditions is debatable. The same situation arises with regard to bacillary dysentery. There are many who think that all cases of nonspecific ulcerative colitis are in fact instances of chronic bacillary dysentery in which the organism is, for some reason, not demonstrable.

Dr. M. G. Spiesman, Chicago: I want to contribute briefly 2 cases of amebic granulomas of the rectum which were mistaken for carcinoma. A doctor aged 55 had frequency of stool and bleeding from the rectum. A diagnosis of carcinoma was made by a protologist, and he was advised to have the rectum resected. He was referred to me. I did a routine biopsy and a direct smear. The biopsy showed only inflammatory tissue, and the direct smear microscopically revealed amebic trophozoites. The diagnosis of amebic granuloma was made and we fortunately were able to cure this man's "carcinoma" with antiamebic treatment. Another case was sent to me with the tentative diagnosis of carcinoma of the rectum. A colostomy had already been performed. A routine biopsy showed inflammatory tissue, and a microscopic examination from a direct smear revealed amebic trophozoites. This man also was relieved of his suspected carcinoma with antiamebic treatment. These 2 cases emphasize that in every case of suspected carcinoma one must rule out amebic infection.

Dr. Daniel N. Silverman, New Orleans: I have a different opinion as to the cause of chronic ulcerative colitis. After studying more than a thousand cases of acute and chronic bacillary dysentery over a period of years I believe that neither Bacterium dysenteriae nor Endameba histolytica has anything to do with the cause of chronic ulcerative colitis. Only in comparatively few instances, such as this, have we had sufficient thickening and narrowing of the bowel to give a similar radiologic picture. On the other hand the cultures have been negative in practically all of my cases of chronic ulcerative colitis. So I, like others, am on the fence as to the etiology of chronic ulcerative colitis.

THE GENERAL PRACTITIONER AND THE RETURNING VETERAN

COLONEL LAUREN H. SMITH
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AND
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MEDICAL CORPS, ARMY OF THE UNITED STATES

Adequate and specific medical care for the returning veteran is now a need in every American community, especially in smaller or suburban areas. It must be recognized as an increasing problem, for the medical profession will be faced with it more and more in the next few years. Professional interest must be kindled, because the major solution should be inspired and implemented by personal activity of the general physician, not only to provide the best health protection for our soldiers who will be returning to each community with their scars of physical and mental wounds, but also to insure the continuing prestige of the general practitioner. If the members of our recognized medical societies are not ready to carry on with this challenge, they will find themselves shunted to one side by some group who will appear to meet it. As there are psychiatric aspects to be considered, some suggestions which might be helpful in general practice are herewith offered.

The psychiatrist is expected to be more sensitive to and aware of, and perhaps less ill at ease with, the problem of psychiatric returnees. But although they may constitute one of the largest groups in the medical problem, there will be enough neurologic, surgical, orthopedic and other types of cases to discourage any feeling that the whole job should be shrugged off on the doorstep of some ladies' aid committee which may act with professional assistance no greater than lay or nonmedically trained psychologists or social workers. The deciding factor which well may unwittingly jockey the medical group away from meeting the situation and form the wedge of an increasing lay supervision of community health needs can be the inertia of the local general practitioner in taking up the challenge.

In many communities there are groups of earnest, intelligent and well intentioned citizens who are, or will soon be, taking steps to anticipate and prepare ways and means to meet the problem of the returning veterans. In almost every community this will likely result in the formation of a civilian council, which will make use of the professional services of lay workers from the staffs of social and welfare organizations. Perhaps financial aid to furnish salaries for administrative, secretarial and clerical help will be offered, provided by legislation or solicited from state or federal grants. If this comes to pass, as seems indicated by recent events, it is important that it be developed with and by the organized medical group, especially in the average nonmetropolitan community. In order to secure the best results and for the most able administration, the medical problem had best be kept well in the hands of the community's physicians through their group corporate body, the county medical society. And this can emphasize the potentially fine job which can be done by physicians in their own regular practice for the bulk of those veterans needing medical and psychiatric attention. The strain on veterans' facilities plus the

preferences of some veterans to be treated in their own community by physicians of their own selection may make treatment in government hospitals one of choice only for those cases demanding a specialization of treatment, equipment and appliances or a duration of hospitalization incompatible with office or local practice.

Perhaps the greatest deterrent for the average physician in his willing and spontaneous assumption of this work may be an inordinate sense of inadequacy and a resulting hesitancy in approaching the psychiatric problems which will make up a large number of the cases encountered. Before making any definite suggestions as to a general picture of development, certain points concerning the general practitioner's ability in the field of mental and emotional illness should be considered.

The majority of clinical psychiatrists will agree that they feel more kindred to the general practitioner than to any other one group of their medical brethren. The well informed, thinking physician who possesses a broad experience in general practice has found that 60 per cent or more of illness encountered in his office practice is of psychogenic origin without any somatic basis. The problems and procedures of handling these patients are therefore familiar to the general practitioner, and he is well situated to handle adequately the majority of psychiatric problems he may encounter, and for recognizing and directing to the right places those few which will need the attention and care of specialists.

It is interesting to look at the obverse of that coin. The psychiatrist feels more at home with, and sees his professional problems better understood by, the general practitioner than by the surgeon or the otolaryngologist, albeit the understanding perhaps is somewhat naive and more intuitive than conscious. Why, then, is it that the general practitioner often does not feel professionally more at ease with the psychiatrist and the better enabled to tackle such patients? Yet he will do minor and even major surgery without a qualm, attack ophthalmologic conditions and laryngeal or ear problems in his stride, but if almost any chronic and familiar occupant of his waiting room chair is labeled "psychoneurotic" he at once will begin to look a little askance and feel somewhat hesitant or less assured in this person's presence.

The answer is, of course, that most physicians do know their psychiatry and their psychoneurotic patients intuitively rather than in the light of a conscious, disciplined knowledge; and while they work with hands and material technics on surgical patients and see immediate results, with the psychoneurotic they are constrained to work chiefly with intelligence, thoughtful considered planning and personal direction. The results are often so slow in developing and so full of seemingly contradictory changes that the physician may feel he is not quite sure whether it was luck or good management that did the trick.

But every general practitioner in an ordinary nonmetropolitan community has as an inherent part of his medical armamentarium the most important requirement, other than skill or technical knowledge, needed in the psychiatric treatment of a patient. This is the simple but detailed and comprehensive knowledge about the patient, his family and background, his environment, his ambitions and hopes and the threats impinging against those. This is the contact which the practitioner in a large city so inexorably loses; that which the psychiatrist with strangers for patients must so painstakingly delve for and evaluate.

Recognizing then these natural assets, this intuitive knowledge of how to handle patients which results from real experience, they can be developed by some means of orientation which might help in formalizing such knowledge to the end that the physician may acquire more confidence and assurance in its use.

The basic premise on which any successful psychiatric approach must rest is the conviction that people, and particularly the individual at hand, are inherently normal and good, and that any deviation from this in behavior or conscious motives and intent is due to illness, physical or psychologic, which in the great majority of cases can be cured.

The man who is attempting to correct a psychologic illness cannot believe that the sufferer is incurable without thereby losing his chance to effect a cure. He should not invoke the folklore of character defect, heredity, natural perversity or some other such pious self excuse without being ethically bound to turn over the case to some one else. To make these statements is not to put the cart before the horse or to indulge in wishful thinking. It is merely a recognition of the fact that all the witch burning in the whole of the fourteenth and fifteenth centuries never led to the finding of a cure for hysteria, while earnest, sympathetic, intelligent application of medical men as divergent in theory and technic as Pinel, Freud or Austen Riggs has resulted in an ever more favorable prognosis and outcome for the psychoneuroses.

People act the way they do because they believe it is the only way of acting that will assure them happiness. And except in the case of insanity or mental deficiency or organic mental disease all that is needed to bring about psychologic balance and reintegration is to find the reasons for their behavior and intentions and slowly, let it be repeated with emphasis, slowly, to reeducate them—not by sudden or immediate expostulation and haranguing nor by dumping on them our reasons for considering their actions or ideas unwise; reeducation is achieved by little hints here, and demonstrations and little advances there, until they see the light and accept those reasons deeply as their very own, and frequently much of their new learning must come from their impressions stimulated by our own actions and our emotional attitudes toward them rather than by our actual words.

Psychoneurosis is merely emotional illness deriving from ignorance, false experiences or fear, occurring in a person with an essentially normal mind and nervous system but disturbing the integration of psychologic forces that lead to adaptive behavior. It is reasonable to state that there are few if any psychoneurotic persons who cannot be aided in regaining normal mental health by a physician who is friendly, observant, skilful in understanding and influencing, and practical in manipulating the environment as needed.

So called neurotic or normal is merely a matter of position along a scale of security and self confidence, knowledge and belief. Each of us has the potentiality of developing a psychoneurosis if we are only subjected to a sufficiently intense or chronic strain of ignorance, or of false and threatening experiences, or of fear.

Fortunately the great bulk of psychiatric persons who are and will be returning from the armed forces represent this illness of psychoneurosis, and the problem of mental disease, or insanity, is relatively small.

Of a million men or women there are a certain number who break down with real mental disease. The same percentage ratio holds for men in the army, perhaps increased to some extent, but not too significantly.

A large majority of the mental illness breaking out in men of the armed forces is of an acute type which tends to recover rapidly, especially when the patient is returned to civilian life. Such problems are the working area for the specialist in psychiatry.

The present day treatments available for frank mental disease, even of the schizophrenic, the manic depressive or involutional type, and the problems inherent in home care, will warrant committing almost all such cases to institutional treatment.

On the other hand, it will be found that, with a few exceptions, the majority of neurotic patients can be treated successfully by the physician in general practice if he is practical in being sympathetic and understanding, especially if his knowledge of psychiatric concepts is improved and formalized by even a minimum of reading in today's psychiatric literature.

With this in mind, at the end of this article is appended a list of reading that is authoritative and comprehensive, which should be of real practical value in the approach to the understanding and handling of psychoneurotic patients but which is not too technical, and which is not really geared for the specialized handling of the more severe cases.

A few exceptions should be noted in the matter of psychoneurotic conditions that would benefit by specialized attention—the cases of serious, major complicated type or degree, which are as follows:

1. The obsessive-compulsive cases, the serious reactive depressions or other, perhaps severe hysterical cases, which we realize are more than the general physician can hope to cope with. Most of these will be no different than ones of similar type seen before in prewar civilians.

2. The particular cases of so-called battle psychoneurosis, or operational fatigue—the combat or operationally induced neurotic states—which can so easily and quickly be cured by the specific psychiatric technics developed in this war.

One interesting case account was recently published in *News Week:*

> *Boredom.*—Far from New Guinea, where he killed 50 Japs and was decorated twice, ex-paratrooper of Passaic N. J., was bored. He told police last week it was the awful quiet which made him rob a New Jersey taxi driver, go to New York and then kidnap a lawyer to drive him back to Jersey City.

He may have been suffering from operational fatigue. There are two necessary facts present: 1. He was overseas in combat. 2. His behavior is now abnormal. If it could be ascertained that he showed no criminal tendencies before induction, the diagnosis would almost be made—and if in addition it was found that he suffered from insomnia, nightmares or a nervous stomach or that he was jittery or anxious, he could be sent off to the nearest rehabilitation center, where experience has shown that it is possible to restore his prewar personality or a reasonable facsimile thereof.

A young lieutenant was referred to one of us for evaluation pending a court martial for being drunk and disorderly in a nearby town. The first thing noticeable about him as he entered the office was the flushed, rather expressionless, tired face, with deep forehead furrows and widened palpebral fissures—a facies typical of many of the men who are suffering anxiety and chronic nervous tension. He admitted that he had just had another court martial some few weeks before for being drunk and out of uniform, and that this time he expected to be discharged in disgrace. He had been drinking pretty heavily ever since he had got back to the States seven months before. But he had not been a heavy or unusual drinker before then. His tour of duty was in the South Pacific area, where he had been a navigator on a heavy bomber and had completed twenty-six missions—or strikes as they are called in that area. On the twenty-fourth mission the plane had been forced to make a water landing, but the crew had all been saved after eighteen hours in their rubber life boats. He went to some trouble to explain that this water landing was not his fault and why it wasn't—offered the statement that no one of the crew except the pilot realized that. This officer had not been sleeping well. He had been having nightmares, particularly of combat scenes. He had noticed that his concentration was failing and his appetite had fallen off, although he had suffered no actual nausea or vomiting. He had startle reactions at loud or sudden noises and was restless most of the time. He had been feeling tense and on edge in planes since getting back, especially when they were taking off or landing. It is obvious why all ideas of court martial were quietly retired and why he was sent to a rehabilitation center for treatment.

A third case, excerpts of which are quoted from a report by Lieut. Col. Roy R. Grinker on a case of depression, with anxiety of one year's duration, shows the amazing results attainable by specialized treatment in these operational fatigue cases, in that it was relieved in one week by pentothal sodium narcosynthesis and brief psychotherapy:

> A captain aged 25 presented an expressionless face; his muscles were quite rigid, indicating a great deal of tension. He did not volunteer much information and never smiled, and his speech was retarded. The patient had been a flight leader in a pursuit squadron and had fought successfully until about his twenty-fifth mission, when a friend who had been flying on his wing went up in flames. However, he stated that he continued fighting and successfully completed his tour of duty, although feeling bad and depressed. He returned to the United States, refusing the chance of remaining as commanding officer of a squadron. He had been reassigned to a job in the United States which he liked very much and wanted to keep, but his depression continued and was accompanied by severe startle reactions. When any one came into his room and made a sudden noise or turned on the light he would jump out of bed with great anxiety. In addition to the depression and its concomitants there was considerable insomnia with battle dreams, which repeated some of the very severe traumatic incidents of his combat experiences. However, he maintained fairly good control of himself and continued to fly. He attempted to decrease the anxiety and depression by drinking, but the only result was an increase in anxiety. He stated that he tried hard to forget his experiences but found it impossible.

In his first interview Lieutenant Colonel Grinker submitted the patient to a pentothal abreaction of the episode in which his friend and plane went up in flames. This treatment was followed by a discussion of the episode and reassurance against personal guilt feelings after the patient had become conscious again. Clinical notes indicate his improvement:

> The next morning the patient entered the interviewing room and stated "I feel like a load has been lifted from my mind, like a great relief. I slept well last night, awakened once and went right to sleep again. I had no dream. This morning I feel good."
>
> On the third day, "The next day the patient entered the interview smiling and stated frankly 'I must say I haven't felt so good as I feel now for a long time. I slept well and had no dreams.' He felt as if he could carry on."

To make a long story short, by the end of the week the patient felt that the load had been lifted from him completely. He wanted to go back to duty and felt capable of carrying on and in Grinker's opinion had been brought to a satisfactory point at which to terminate treatment.

"Therefore we did not treat him any further but returned him to duty." Six months later, reexamination revealed that he was entirely well and competently performing his flying duties.

The last 2 cases were both from air force casualties. But with a change in the props (a stage setting word, not air force lingo) they might have come from any combat service or area. Muscle tension, fidgetiness and restlessness, startle reactions, insomnia and nightmares, irritability, difficulty in concentrating, physical symptoms of emotional stress—particularly functional stomach trouble—these are the signs that appear.

But not everybody with so-called operational fatigue has just this picture or has been in combat. There is one other type to consider, the soldier who has been sent overseas on duty or to places where he has been exposed to long stretches of unimaginable loneliness or monotony. This has been seen in crew members of bombers who flew only on submarine patrol in the Caribbean, in aviation engineers who had been stationed for months in some inactive, isolated area of the Aleutians, and so many men have returned from Ascension Island with this condition that some psychiatrist dubbed it "Ascension Island neurosis." It lacks the startle reactions and the nightmares of the other type of operational fatigue and has more hypochondriacal and neurasthenic elements to it.

These examples point out certain leads of importance. When confronted with a veteran, find out reasonably soon what he was a veteran of. As soon as he says he was overseas be a little more suspicious of a specific war-induced neurosis; be more than suspicious if he was in combat or if he was assigned for any length of time to an exceptionally lonely, inactive place. On the other hand, if he never got close enough to either the Atlantic or the Pacific oceans even to spit out of the United States—if his neurosis was well developed before he was inducted and his behavior has shown no especial difference either before or after, he was sick before he came into the Army and he is still sick. But with this difference: The community will now be judging the medical group on the basis of whether anything is done for this man's illness. And if physicians aren't active in treating him, others will be wanting to try.

Psychiatric professional interest would tend to lead to emphasizing the importance of the mental and emotional medical needs of the soldiers who are and will be returning. Statistics, however, will show that this is not overemphasis. And despite the bulk of the psychiatric cases, numerically there also will be many veterans who will be in need solely of strictly organic medicine.

Many of the persons who will come for treatment will have had hospital records of study, diagnosis and treatment in the Army, and there should be instances in which these records would be of great value to the physician in work with the soldier. An army regulation [1] now authorizes the Veterans Administration to release to physicians a copy of these records provided the request is accompanied by a signed statement of approval from the patients. It is imperative that this aid be not overlooked.

Not all men returning will be in need of any professional help. We must remember that the majority of men will meet the issues involved in adjusting to new home town conditions in an eager stride. The same common sense, courage, imagination and spirit of growth that enabled each one of them to become a fighting soldier will be used in picking up the life channels they desire at home. For those less fortunate or those needing special help, let it be provided by the man they can trust and depend on—the home town doctor.

It may be stated unequivocally that any intelligent general practitioner who uses general medical common sense, combined with a reasonable degree of acceptance of known established psychiatric principles and orientation, can successfully apply these principles of treatment in the majority of cases.

Finally, one simple suggestion may be considered feasible of development in most communities: A committee should be formed in each county medical society with a title somewhat along the lines of "Committee for Study of Veterans' Health Problems." This committee should be assigned two functions: (1) to collect information, to contact state and federal bureaus, to prepare plans and procedures, and to act as a central bureau for all physicians, and (2) to offer its services as an integral part of the veterans' council of each town, under the supervision and direction of that council's committee on physical and mental health problems, and to act as the physicians' representative on that council in its meetings and discussion of medical matters.

The fundamental contribution will be in the personal practice of each physician. He is not only the unit by which this work may be initiated but also the keystone to maintain it.

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1. Administration of Hospitals, General Provisions, Army Regulations 40-590, United States War Department, Washington, D. C., Government Printing Office, Aug. 29, 1944, paragraph 2b, subparagraph (a).

Roger Bacon.—Embedded in the superstitions of the thirteenth century, any man who knew gunpowder, handled the furnaces, alembics and other instruments of an alchemical "elaboratory," prophesied "horseless carriages" and ships moved without sails or oars could easily stand accused of practicing "black arts" (i. e. magic) and writing heresy punishable by imprisonment. Such was the fate of Roger Bacon, the English born Franciscan of Oxford. Yet his "Opus Majus" ("Great Work"), ordered by and delivered to Pope Clement IV in 1267 but not published for five hundred years, reveals clearly that this learned and traveled friar, pupil of the great Bishop of Lincoln, Robert Grosseteste, dealt with "magic," not to practice but to expose "the mad acts of magicians" by the true test of "experimental science." He was no sorcerer who looked on mathematics as "the alphabet of all philosophy" and studied optics for the "sweetness" and "nobility" of "this very beautiful science."—The Autobiography of Science, edited by Forest Ray Moulton and Justus J. Schifferes, New York, Doubleday, Doran & Co., Inc., 1945.

A STUDY OF DIARRHEA OCCURRING AT ARMY AIR FORCE HEADQUARTERS, CALCUTTA, INDIA

CAPTAIN EDGAR A. LAWRENCE
Flight Surgeon
AIR TRANSPORT COMMAND, ARMY OF THE UNITED STATES
AND
CAPTAIN ROBERT E. BENNETT
Flight Surgeon
AIR SERVICE COMMAND, ARMY OF THE UNITED STATES

Outbreaks of diarrhea are not uncommon in army camps in the United States. They are usually of short duration and easily controlled. In India, throughout the entire year cases of diarrhea are seen in all army installations. During the monsoon season they tend to increase in number, become far more severe, are of longer duration and often show a much higher incidence of dysentery. Whereas in the United States outbreaks of diarrhea are ordinarily treated by routine army methods, it cannot be overemphasized that in India and other areas of the Far East every case of diarrhea must not only be looked on with grave suspicion but examined individually with the most minute care. In India, diarrhea occurring during the monsoon season, which in this locality (southern Bengal) lasts approximately from June 20 to September 20, is often referred to as "monsoon" diarrhea; a poor term, since it only tends to obscure the true etiology of the disease.

In this study we shall attempt to show the conditions which brought about a high incidence of amebic and bacillary dysentery during a twenty-three day monsoon period at this air base as well as the measures employed to keep the incidence of these diseases at a minimum.

The air base is situated on the banks of the Hooghly River, approximately 15 miles from the center of Calcutta. It is enclosed on three sides by densely populated and disease ridden Indian villages. Estimates indicate approximately 14,000 persons within an area of a half square mile, most of whom live on or near the waterfront in the immediate environs of the base. The village streets and fields are littered with all kinds of débris. Decaying garbage, human and animal excreta and occasional foul smelling carcasses of dogs and bullocks left lying for days at a time are the usual conditions found. Sanitation in its most elemental stage has made no impression on the populace. Obviously conditions of that kind are extremely conducive to the breeding of flies in and around the base, domestic (Musca domestica) and bottle flies (Chrysomia megacephala) being the common varieties.

From Jan. 1, 1944 to the end of June 1944, 569 soldiers reported at sick call with the complaint of diarrhea. During July there were 205 cases, or approximately double the incidence of any previous month. Such an increase is not to be construed as an epidemic but rather, we believe, a result of the rainy season and natural increase in fly breeding.

During the period from July 11 to August 2 all cases reporting at sick call with the complaint of diarrhea were carefully studied and the following data obtained: (1) history and physical examination relative to the attack of diarrhea; (2) length of tropical service; (3) stool examinations by both fresh saline and iodine preparations and concentration methods where indicated; (4) cultures of fecal specimens obtained by rectal swabs and planted on inhibitive mediums, bacteriologically traced as to type specificity of dysentery organisms by the Subcommission on Dysentery, headed by Dr. Carl Ten Broeck.[1]

DISTRIBUTION

During this twenty-three day period, 198 consecutive cases of diarrhea were studied. The causes were as presented in table 1, from which it can be readily seen that 104 cases (52.5 per cent) exhibited either amebic or bacillary dysentery or both. Most forms of nonpathogenic protozoa were seen either alone, together or accompanying one or other forms of dysentery. Stools that were negative or showed nonpathogenic flagellates microscopically were not followed further as to etiology but may well have been due either to simple dietary indiscretion, a change in the types of food ingested in India or one of the Salmonella group of organisms, which not uncommonly present dysenteric symptoms often indistinguishable from those of bacillary or amebic dysentery. Endolimax nana was seen in heavy numbers in 37 cases not presenting amebic or bacillary dysentery, a point of interest in view of the fact that in only 3 cases were they seen in a group of 100 supposedly normal individuals. It would be foolhardy to suggest, but conceivable, that in certain cases in which they are seen in large numbers (occasionally as high as 30 to 40 per high power field) and where no other parasites are found they may possibly be at least a contributing factor to the diarrhea.

TABLE 1.—*Distribution of Cases*

Parasite or Bacteria	No. of Cases	Percentage of Total
Endameba histolytica	31*	15.6
Bacillary dysentery	66	33.3
Both Endameba histolytica and bacillary dysentery	7	3.6
Giardia lamblia	4	2.0
Nonpathogenic protozoa, unassociated with foregoing (E. nana, C. mesnili, Esch. coli)	43	21.7
Negative microscopically	47	23.8
Total cases examined	198	

* Two recurrent cases.

TABLE 2.—*Symptoms and Incidence*

Disease	Total Cases	Anorexia	Nausea	Vomiting	Weakness	Tenesmus	Fever
Bacillary dysentery	66	26	29	12	21	19	31
Amebic dysentery	31	13	10	7	10	5	16
Both bacillary and amebic dysentery	7	4	3	1	4	2	5
Giardia lamblia	4	0	1	0	2	0	0
Unclassified diarrheas	90	29	34	9	35	28	25

SYMPTOMS

The onset of symptoms was sudden in 70 per cent of the bacillary dysentery cases, in 48 per cent of the amebic dysenteries and in 57 per cent of all other cases. The outstanding symptoms and incidence of each are given in table 2.

It may seem that tenesmus was the only outstanding symptom peculiar, but by no means entirely, to bacillary dysentery. Fever occurred approximately in only 50 per cent of the amebic and bacillary cases, and therefore it is important to point out the practice, so often seen in Army medical personnel, of taking temperatures to determine the possibility of dysentery is of very limited value. We were frankly unable to

1. Subcommission on Dysentery, Army Epidemiological Board, Preventive Medicine Service, Office of the Surgeon General.

decide from the symptoms what type of disease we were likely to find under the microscope. The only clue to bacillary dysentery, apart from tenesmus, was the frequency of bowel movements, for whereas the average number of stools passed were from 4 to 7 per day in the unclassified diarrheas and a similar number per day in cases of amebiasis, the average in bacillary dysentery was from 8 to 20. In this series nausea was quite an outstanding feature in all types of diarrheas, and vomiting was not unusual. The climate and chloride loss from vomiting and perspiring may well account, apart from the disease itself, for the high incidence of weakness. No frank cases of shock were noted.

LENGTH OF TROPICAL SERVICE

Soldiers arriving overseas during the monsoons were apparently just as prone to intestinal disease as those with long terms of service. There was no evidence to suggest that any resistance or immunity was acquired from prolonged tropical service.

LABORATORY FINDINGS

The routine examination of stools in all cases of diarrhea cannot be overemphasized; as has been shown, in this series neither the symptoms nor the presence of fever gives one a positive clue to diagnosis.

In this study, stools were passed in an adjoining latrine and examined immediately in a warm state. The whole stool was mixed and a fresh saline and a 1 per cent iodine preparation made. In cases of doubt, and in the studies of carriers, a portion of the specimen was concentrated and examined for cysts. The characteristics of the gross stool and microscopic picture conformed to the classic description. In those with bacillary dysentery the stool was of a bloody mucous consistency, devoid of fecal material in 74 per cent. In those presenting amebiasis 32 per cent were of a watery, bloody fecal consistency, 29 per cent were watery and fecal but lacking in gross blood and some showed streaks of mucus and blood surrounding a semisolid stool. In this series we were unable to demonstrate gross blood in any case that did not prove to be dysenteric. Microscopically the diagnosis of bacillary dysentery was made in the presence of numbers of red and white cells and large macrophages and naturally absence of pathologic protozoa. The diagnosis of giardiasis and amebiasis was made in the presence of the active trophozoitic or encysted forms.

Because of the interest and cooperation of the Subcommission on Dysentery,[1] rectal swabs were taken and cultured from all cases of diarrhea. Their report will, no doubt, appear later, but it is sufficient to say at present that, although only one culture was obtained during the acute phase of the disease, 25 (37.8 per cent) of the 66 cases of bacillary dysentery were positive for one or the other strains of Shigella organisms. No Shiga type organisms were isolated.

TREATMENT

All cases of dysentery were immediately isolated and evacuated to a nearby general hospital, where they received recognized routine therapy. It is of note that no deaths were recorded nor were any complications reported.

SOURCE OF INFECTION

The water supply, naturally, came under grave suspicion; however, weekly samples of both drinking and ice water were bacteriologically tested and found to be potable. Water sediments were examined by Major G. J. Dammin[1] and found to be negative for amebic cysts. Purification of water is accomplished by a process of flocculation and filtration and, finally, chlorination.

Another obvious source of infection for which, at present, there is no remedy, is the local hotels, restaurants, bars and other such establishments. No check is made of the food handlers employed in such places, nor is there adequate fly control. Many of the Army personnel, particularly transients, and those on leave, live at these hotels and consequently are openly exposed.

In an effort to determine the degree of fly hazard, as far as the transmission of dysentery was concerned, 25 of them were caught in various mess halls and cultured on inhibitive mediums. Live bottle and domestic flies were picked up from screens by forceps and allowed to crawl over a small area of the plate. Twenty-two, or 88 per cent, showed cultural and morphologic characteristics of coliform colonies. Owing to lack of facilities, no further bacteriologic study was made to trace further either the group or the genus. The fact, however, that such a high percentage showed gram negative coli group organisms is presumptive evidence of transmission. It was unfortunate also that owing to lack of cultural mediums and a dissecting microscope no study could be made for amebic cysts that might have been present in the contents of the flies' intestines. In view of the surrounding breeding grounds and access to human excrement it is more than possible that these flies harbored encysted forms of Endameba histolytica. In further support of such an assumption, the fact that the incidence of amebiasis was reduced by the intensification of fly control measures is, at least, partial proof on deductive grounds.

CARRIER STATE

The extent to which food handlers and other human beings not connected with the serving of food play a major part in the spread of infection, as far as amebiasis is concerned, is a question. As regards bacillary dysentery, though, there is no question that man is a definite reservoir—flies playing purely a passive role in its transmission. It should be stated that all food served at the base is thoroughly cooked prior to serving, no raw vegetables are prepared, and every precaution is taken to prevent manual handling of food by Indian bearers. Bearers' nails are examined and pared, uniforms are kept clean and adequate facilities for hand washing are provided.

TABLE 3.—*Carriers*

	Bacillary Dysentery			Amebic Dysentery		
Men Examined	Number Cultured	Number Positive	Percentage Positive	Number Examined	Number Positive	Percentage Positive
Indian employees...	148	5	3.3	289	22	7.61
White soldiers.....	116	12	10.3	100	3	3.0

Although the numbers of individuals in table 3 are small they are sufficiently representative of a cross section of the total number of troops at the base. As can be seen in the cases from whom rectal cultures were made, the greater percentage of positives occurred in the Army personnel and not in the native food or water handlers as might be suspected.

The number of contact carriers of amebiasis in 100 unselected cases was surprisingly low in the Army personnel and only somewhat higher in native food handlers.

CONTROL MEASURES AND RESULTS

Flies appeared to be the main vectors in passive transmission. Local British government authorities were notified, and stringent sanitary measures in the surrounding area of the base were carried out. As far as the base itself was concerned, sanitation teams made up of Indians under the supervision of noncommissioned officers were organized. Latrines, buildings, tent areas and all open air breeding places were sprayed with Dichlorodiphenyl-trichloroethane (DDT) or some form of pyrethrum spray or aerosol bomb. Greater numbers of fly traps of the box conical type were placed at advantageous intervals around all mess halls and possible breeding places and at garbage collecting stations. Refuse cans were checked for tightly fitting lids. All mess hall doors and windows were repeatedly examined and the screening and woodwork repaired where necessary. The control of flies by these measures was both dramatic and gratifying.

As a means of eradicating, as far as possible, amebic carriers in Indian food handlers and in view of the difficulties of individual therapy, mass treatment was initiated. Each Indian working in or around mess halls received a daily dose of a half grain (0.032 Gm.) of carbarsone for a period of ten days. Repeated stool examinations are being done on all food handlers and a careful stool examination done on all new applicants.

The command and Indian latrines were examined for cleanliness and maintenance was enforced. Notices with regard to hand washing were posted.

Where possible, in the command, all carriers of either amebic or bacillary dysentery were segregated and treated. Facilities, however, were such that not all soldiers could be examined. There is little doubt that our own troops are acting as a reservoir of bacillary and, to a lesser extent, of amebic dysentery.

As a result of these control measures and prompt isolation of dysentery cases there has already been a definite and appreciable drop in the incidence of diarrhea and dysentery. In a three week period from August 2 to August 23 only 92 cases reported at sick call with the complaint of diarrhea and of these there were 21 (22.8 per cent) cases of bacillary dysentery and 11 (11.9 per cent) cases of amebiasis. Though the total cases of diarrhea were lower, there was only a small drop in the numbers of dysentery cases. This drop cannot be explained on the grounds of periodicity in fly breeding, for flies of all types continue to be prevalent in other areas surrounding Calcutta.

CONCLUSIONS AND SUMMARY

1. All cases of diarrhea occurring in the tropics must be approached with grave suspicion and utmost concern. Employment of the routine gross and microscopic stool examination cannot be overemphasized. The fact that so many untreated early cases of amebic and bacillary dysentery tend to become chronic quickly, often leading to lifelong invalidism, should in itself be an indication and reason enough for thorough diagnosis and early institution of adequate therapy.

2. The term "monsoon" diarrhea is misleading and only tends to obscure the true etiology of the disease.

3. The high incidence (52.5 per cent) of amebic and bacillary dysentery is shown in a series of 198 consecutive cases of diarrhea occurring during the monsoon season.

4. The often used Army doctor's method of differential diagnosis between simple diarrhea and dysentery by checking the temperature and, if normal, administering one of the sulfonamide drugs for a period of twenty-four to forty-eight hours is to be deplored. As has been shown in this series, the temperature in dysentery is often normal and the symptoms are not too far removed from those of unclassified or nonspecific diarrheas. Not only does the use of the sulfonamide drugs for so short a period, when they are effective in controlling the disease to some extent, lull the physician into a sense of false security but they also can be considered no more than palliative if dysentery is actually present.

5. There was a high incidence of bacillary dysentery carriers (10.3 per cent) in our own troops.

6. All known carriers in Army personnel should be promptly treated and segregated.

7. If Indian food handlers, by virtue of military necessity, are employed, repeated stool examinations should be made.

8. In India and throughout the Far East, sanitary discipline and every method at our disposal for the control of flies must be instituted and vigilantly maintained.

MODE OF PRODUCTION OF PULMONARY EMBOLI

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Pulmonary embolism secondary to venous thrombosis, especially in the deep veins of the legs, is a disorder that has been feared by physicians for centuries. Since Valsalva's [1] classic experiment in 1740 in which he described the effects on man of holding the breath in inspiration and making an expiratory effort with the glottis closed, there have been numerous studies on venous pressure. However, it was not until the method of Moritz and Tabora [2] was introduced in 1910 that comparable measurements of the venous pressure were recorded. They and subsequent investigators noted a great increase in venous pressure in subjects performing the Valsalva experiment but on review of this literature we find that their observations have been chiefly on the veins of the arm: the physiologist Méan [3] did observe a great increase in the volume of the peripheral veins in both the arms and the legs.

The recent work of Bürger [4] and of Meyer and Middleton [5] has emphasized the great danger to persons with heart disease of even a modified Valsalva experience (acts of defecation, parturition, coition, lifting, straining at work or in sports) and they even attributed "bedpan" deaths to heart failure from sudden changes in venous pressure and total hemodynamics. The emphasis of this type of vascular strain has been placed on the heart, but we believe that sudden and often fatal pulmonary embolus is a more common result of such acts of straining by those confined to bed by illness or

From the Massachusetts General Hospital.

1. Valsalva, Antonius Maria: Opera, Venice, F. Pitteri, 1740.
2. Moritz, F., and von Tabora, D.: Ueber eine Methode beim Menschen den Druck in oberflächlichen Venen exakt zu bestimmen, Deutsches Arch. f. klin. Med. **98**: 475, 1910.
3. Méan, Henri: Influence de divers agents, notamment de l'acide carbonique, sur la tonicité des veines périphériques de l'homme, Arch. internat. de physiol. **40**: 429 (March) 1935.
4. Bürger, M.: Kreislauffunktionsprufüngen im Sport, Med. Welt **4**: 1639 (Nov. 15) 1930.
5. Meyer, O. O., and Middleton, W. S.: The Influence of Respiration on Venous Pressure, J. Clin. Investigation **8**: 1 (Dec.) 1929.

operation. Indeed the single case description by Meyer and Middleton is classic for pulmonary infarction, but they failed to mention this possibility. The dramatic plugging of the pulmonary arteries by clots released from the leg veins after straining on a bedpan has been witnessed probably by nurses more often than doctors; in our own hospital this "Haley sign" of pulmonary infarction has been attributed for years to an astute head nurse.

In our determinations of venous pressure in the arm and the leg it will be noted that, like previous observers, we found a rise of several centimeters in the arm vein pressure during the forced expiratory effort with the glottis closed. The difference between this reading and the reading in the leg when recumbent is probably due to the fact that the venous reservoir drained by the superior vena cava is much smaller and more subject to pressure by muscles and other structures. However, when sitting in the bedpan position there is a great rise in normal venous pressure in the legs (hydrostatic effect), but this in turn shows a greater increase on the forced expiratory effort.

Our explanation then for this mode of release of mural thrombi that so often lie in the leg veins is in the observed facts that venous pressure and volume in the leg rise sharply during a Valsalva experiment. Associated with this rise in venous pressure, the return of blood to the heart is temporarily impeded so that the peripheral veins become distended with blood, which may loosen an insecurely attached mural thrombus. With the drop in venous pressure during the next inspiration the dammed venous blood rapidly empties from the peripheral veins, washing with it any loosely attached thrombus. Although this explanation is simple, we are unable to discover its previous description.

Venous Pressure in Arms and Legs During Valsalva Experiment

	Recumbent				Sitting Up in Bed: Leg	
	Arm		Leg			
	R. R. L.	E. M. C.	R. R. L.	E. M. C.	R. R. L.	E. M. C.
Normal breathing.....	95-105	85-90	104-108	140-145	285	325
Full inspiration.....	380	350	210	205	410	450
Full expiration.....	325	330	197	170	405	425
Midposition.....	250	330	175	180	390	410
Manometer-needle level..	0	0	0	0	0	0

These experiments were done with the needle in the antecubital vein of the right forearm, the saphenous vein of the anterior midleft calf of subject E. M. C. and in the vein on the dorsum of the left foot of R. R. L. All readings are in millimeters of water. Direct-saline tube method.

The application of this concept in the care of bed patients is obvious. The patient should avoid forced expiration with the glottis closed, especially in the sitting position in bed. The prevention of fatal pulmonary embolism by femoral vein interruption in cases of thrombosis of the deep leg veins, first advocated by Homans [6] in 1934, has proved to be a safe operation. In a large series of cases so treated at the Massachusetts General Hospital Allen, Linton and Donaldson [7] have shown that it is without deleterious effect to the legs and can be done on ill patients with life-saving results.

266 Beacon Street.

6. Homans, John: Thrombosis of the Deep Veins of the Lower Leg Causing Pulmonary Embolism, New England J. Med. **211**: 993 (Nov. 29) 1934.

7. Allen, A. W.; Linton, R. L., and Donaldson, G. A.: Thrombosis and Embolism, Ann. Surg. **118**: 728 (Oct.) 1943.

VENTILATION IN THE SPREAD OF CHICKENPOX AND MEASLES WITHIN SCHOOL ROOMS

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School ventilation, which has necessarily been curtailed on account of fuel shortages during the war, will probably never return to prewar standards. Enlightened opinion, which formerly opposed, on hygienic grounds, lowering the volume of air change, now recognizes the potentiality of higher standards of sanitary ventilation through air disinfection, which can practicably provide the hygienic equivalent of ventilation impossible of attainment by actual air replacement.

Studies, begun in the autumn of 1937, were undertaken to test the hypothesis that the spread of air-borne infection in school rooms could be controlled by radiant disinfection of air. If micro-organisms are air borne, it follows that in a group of persons sharing a confined atmosphere for a given period of time the chance that an infective organism floating in the air will be breathed by a person susceptible to that particular disease is proportionate to the concentration of susceptibles in the atmosphere, just as the chance that a susceptible person breathing the air will become infected is proportionate to the concentration of the specific organisms in the air, the latter being an equilibrium between the rate at which they are added and the rate at which they are removed. In atmospheres where occupancy is intermittent and of relatively brief duration, such as school rooms, the rate of removal is primarily a function of ventilation.

Ventilation of occupied spaces is usually expressed as volume of air change (in cubic feet per minute) either per room or per occupant. Sanitary ventilation, on the other hand, has been defined as the number of cubic feet of air per minute per susceptible,[1] sanitary ventilation thus being in terms of a particular disease.

VENTILATION IN CLASSROOMS AND PATTERNS OF SPREAD OF CONTAGIOUS DISEASE

Those familiar with the patterns of spread in day schools of chickenpox and measles are aware that these diseases, introduced into the relatively immune upper classes, seldom do more than smolder along for a generation or two before dying out. In the more susceptible lower grades, explosive outbreaks and dynamic epidemics are apt to occur (though at times an apparently definite exposure of highly susceptible children may, surprisingly, have no sequelae). If these diseases are air borne, as is now rather generally conceded, this is to say our present standards for the ventilation of school rooms, which provide air change on a basis of total pupils regardless of age or susceptibility, are ordinarily sufficient so to dilute the micro-organisms discharged by an exposing case as to prevent dynamic spread with concentrations of susceptibles such as pre-

From the Laboratories for the Study of Air-Borne Infection, University of Pennsylvania School of Medicine, Philadelphia. These laboratories are supported by a grant from the Commonwealth Fund to the University of Pennsylvania for studies on the mechanics and control of air-borne infection.

Many have aided in these studies, including Prof. E. B. Wilson, who was consulted on the epidemiologic problems; the medical and teaching staffs of the various schools; Mr. Frederic Robinson of the Hanovia Chemical and Manufacturing Company, which lent the equipment for the study in the Germantown Friends School, and Dr. L. J. Buttolph of the General Electric Company, which lent the equipment for the study in the Swarthmore Schools.

1. Wells, W. F., and Wells, Mildred W.: The Dynamics of Air-Borne Infection, Am. J. M. Sc. **206**: 11-17, 1943.

vail in upper classes but are insufficient with concentrations such as are encountered in classes of young children.

There are almost no data reported in the literature as to the critical point of susceptibility above which infection will spread in day schools and below which it will die out, and we have found none at all which are correlated with ventilation. Thomas [2] studied the spread of measles in infants' departments (children aged 3 to 8 years) in the Woolwich District of London. He concluded that "measles may be expected to appear and spread in a department when the number of children unprotected reaches about 33 per cent, and usually, except when some special conditions obtain, it ceases to spread when the proportion is reduced to 18 per cent." A report from the medical officer of health on the London epidemic of measles in 1929-1930 [3] indicates that a similar equilibrium existed some quarter of a century later. Measles, it was concluded, tends to assume an epidemic character in individual school classes when the proportion of susceptibles reaches 30 to 40 per cent and to continue to spread until the proportion falls below 15 to 20 per cent.

Table 1.—*Chickenpox: Negative (Unproductive) Exposures* in Classes of Varying Susceptibilities*

		Susceptibility, per Cent									
		0-19		20-39		40-59		60-79		80-100	
		Exp.	Neg.	Exp.	Neg.	Exp.	Neg.	Exp.	Neg.	Exp.	Neg.
Unirradiated schools											
Penn Charter, grades 1-4		0	..	0	..	3	2	1	1	0	..
Penn Charter, grades 5-12		2	2	5	4	4	3	0	..	0	..
Germantown Friends, grades 5-12		10	10	2	1	0	..	0	..	0	..
Nether Providence, grades K-6		0	..	3	3	6	3	8	1	2	1
Nether Providence, grades 7-12		0	..	4	4	0	..	0	..	0	..
Swarthmore, grades 7-12		1	1	1	1	0	..	0	..	0	..
Unirradiated schools	Number	13	13	15	13	13	8	9	2	2	1
	Per cent		100.0		86.7		61.5		22.2		50.0
Irradiated schools											
Germantown Friends, grades 1-4		0	..	1	1	4	3	8	4	2	1
Swarthmore, grades K-6		2	2	1	1	3	3	3	1	4	3
Irradiated schools	Number	2	2	2	2	7	6	11	5	6	4
	Per cent		100.0		100.0		85.7		45.5		66.7

* Only initial exposures of classes are included in this tabulation, not second exposures or exposures by secondary cases due to these initial exposures

THE PHILADELPHIA EXPERIMENTS

The studies, begun in the Germantown Friends School in 1937, were twice expanded and since the autumn of 1941 have consisted of similar experiments in two neighboring private schools in the city of Philadelphia and two groups of public schools in adjacent suburban areas:

I. The Germantown Friends School and the William Penn Charter School are private day schools located a few squares apart in Germantown, a ward of Philadelphia. Only boys are admitted to Penn Charter, and the sisters of many of these boys attend the coeducational Germantown Friends School. The two groups thus mingle in the homes, the boys of the two schools meet for sports, and the religious and social life of the children interlocks without the schools. Both schools are ventilated only by windows. Penn Charter is wholly unirradiated, while in the Germantown Friends School the classrooms and other gathering places of the children of grades 1 to 4 (two sections to each grade) are irradiated. The design of the classroom installations, described in a previous paper,[4] provides, by central hanging fixtures, irradiation of the upper region of the room above the 7 foot level. The radiation units consist of two crossed "Safe-t-aire" tubes in a shallow aluminum pan reflector, made especially for the purpose by the Hanovia Chemical and Manufacturing Company. These fixtures were also hung in other rooms where the children gather as a group. Only where time of exposure seemed negligible, as in halls and lunch room, was it deemed permissible to utilize direct radiation, the most efficient method of radiant disinfection of air.

II. The boroughs of Swarthmore and Nether Providence provide two groups of public schools in adjacent suburban areas, each about 15 miles from Philadelphia. These are public schools, but the areas from which the children come are well to do. The several schools of both groups are built to meet the Pennsylvania code as to space, light and ventilation. Classrooms of 7,000 to 8,000 cubic feet capacity, each planned to accommodate 30 pupils, are provided with mechanical ventilating systems designed to provide 30 cubic feet of fresh outdoor air per pupil per minute.[5] Since only exceptionally did classes exceed 30 pupils in size, this ventilation may be considered the minimum. The schools of Nether Providence are wholly unirradiated, while the two elementary schools of Swarthmore (grades kindergarten-6) are irradiated. In Swarthmore each classroom is equipped with four side-wall fixtures, each containing a 30 watt (36 inch) "Germicidal" tube in high transmission glass, made by the General Electric Company. Halls and lunch room, as in the Germantown Friends School, are directly irradiated.[4]

The simple epidemiologic technics which have been used were also described in the previous report:[4]

1. "Susceptibility" to chickenpox and measles indicates that a history of no previous clinical attack was obtained from the child's parents. The disadvantages of this method are recognized, but the high intellectual and economic level of the groups reduce them to a minimum, an assumption supported by the low number of second attacks of these diseases reported. Similar records as to previous attacks of mumps were kept,

2. Thomas, C. J.: Measles in the Woolwich District, L. C. C., Appendix to Report of Medical Officer of Education for Year Ending March 31, 1905, pp. 46-60.

3. Report of the Medical Officer of Health and School Medical Officer on the Measles Epidemic of 1929-1930, London County Council, London, P. S. King & Son, Ltd., 1930.

4. Wells, W. F.; Wells, Mildred W., and Wilder, T. S.: The Environmental Control of Epidemic Contagion: I. An Epidemiological Study of Radiant Disinfection of Air in Day Schools, Am. J. Hyg. 35: 97-121, 1942.

5. The Pennsylvania code of school room ventilation was amended recently to permit as much as 50 per cent of the air to be recirculated, but we are told by the architects of these schools that they were built to the former standard and that recirculation would be impossible with the present design.

but the recent demonstration by Enders [6] of the acquisition of immunity to this disease by subclinical infections does not permit such data to be considered a reliable index of susceptibility.

2. The mother of every child with contagious disease was questioned as to the last day of attendance in school and date of the onset of symptoms. From the length of the interval between it was judged whether or not the child caused an exposure of his classmates to his infection.

3. Cases following a class exposure in the child's classroom by the accepted incubation period were deemed class secondaries unless the child had also been exposed in the home (home exposure being presumably heavier than class exposure).

various susceptibility groups. There are given the total number of exposures and the number which were negative, that is, in which the exposing case did not give rise to any further cases, in which the dynamic chain of infection was broken. Only initial class exposures are included, that is, the first exposure of that class during the school year. If 1 or more cases occurred before the class was exposed (the child being for any reason away from school during his infective period), the susceptibility of the class was recomputed as of the date of the first exposure. This limitation to initial exposures was decided on because reexposures of classes were frequently to multiple cases, which introduced complexities, a negative result following exposures to 2 or more cases deserving more weight

TABLE 2.—*Measles: Negative (Unproductive) Exposures* in Classes of Varying Susceptibilities*

		Susceptibility, per Cent									
		0-19		20-39		40-59		60-79		80-100	
		Exp.	Neg.	Exp.	Neg.	Exp.	Neg.	Exp.	Neg.	Exp.	Neg.
Unirradiated schools											
Penn Charter, grades 1-4		0	..	2	0	1	0	2	1	1	0
Penn Charter, grades 5-12		1	1	7	3	0	..	0	..	0	..
Germantown Friends, grades 5-12		3	3	6	3	5	3	1	0	0	..
Nether Providence, grades K-6		2	2	6	2	4	0	2	1	..	..
Nether Providence, grades 7-12		4	4	0	..	0	..	0	..	..	..
Swarthmore, grades 7-12		4	2	6	1	0	..	0	..	0	..
Unirradiated schools	Number	14	12	27	9	10	3	5	2	1	0
	Per cent		85.7		33.3		30.0		40.0		0.0
Irradiated schools											
Germantown Friends, grades 1-4		0	..	0	..	4	3	5	4	5	5
Swarthmore, grades K-6		0	..	4	2	9	6	5	3	3	3
Irradiated schools	Number	0	..	4	2	13	9	10	7	8	8
	Per cent		..		50.0		69.2		70.0		100.0

* Only initial exposures of classes are included in this tabulation, not second exposures or exposures by secondary cases due to these initial exposures.

TABLE 3.—*Mumps: Negative (Unproductive) Exposures* in Classes of Varying Susceptibilities*

		Susceptibility,† per Cent									
		0-19		20-39		40-59		60-79		80-100	
		Exp.	Neg.	Exp.	Neg.	Exp.	Neg.	Exp.	Neg.	Exp.	Neg.
Unirradiated schools											
Penn Charter, grades 1-4		0	..	1	1	1	1	2	1	1	0
Penn Charter, grades 5-12		0	..	0	..	1	1	0	..	0	..
Germantown Friends, grades 5-12		0	..	0	..	2	2	5	2	0	..
Nether Providence, grades K-6		0	..	1	1	7	3	6	3	4	0
Nether Providence, grades 7-12		0	..	0	..	1	1	0	..	0	..
Swarthmore, grades 7-12		0	..	0	..	5	3	3	0	0	..
Unirradiated schools	Number	0	..	2	2	17	11	16	6	5	0
	Per cent		..		100.0		64.7		37.5		0.0
Irradiated schools											
Germantown Friends, grades 1-4		0	..	0	..	0	..	2	2	2	1
Swarthmore, grades K-6		0	..	0	..	1	0	3	1	14	7
Irradiated schools	Number	0	..	0	..	1	0	6	3	17	8
	Per cent		..		..		0.0		50.0		47.1

* Only initial exposures of classes are included in this tabulation, not second exposures or exposures by secondary cases due to these initial exposures.

† As to "susceptibility" to mumps, see text.

EFFECT OF RADIANT DISINFECTION OF AIR

In testing the spread of chickenpox and measles in classrooms with and without radiant disinfection of air, i. e. where the experiment consisted in varying the concentration of micro-organisms in the air, only classes with a similar concentration of susceptibles are comparable. This has been especially important in these experiments because the irradiated groups became, grade for grade, progressively more susceptible as the experiments continued. We have therefore divided the classes into five groups as to susceptibility, those under 20 per cent susceptible, 20 to 39, 40 to 59, 60 to 79 and 80 to 100 per cent susceptible. In tables 1 and 2 we have recorded the outcome of exposures in irradiated and unirradiated classrooms of the classes falling into these

than a negative result following an exposure to a single case, results being fractional when multiple cases gave rise to fewer secondaries than the exposing cases.

The total number of class exposures and the number which were negative (unproductive) are given separately in the tables for each school. Since in the test schools it is necessary to separate the upper and lower grades (only the latter being irradiated), this has also been done for the schools wholly unirradiated. In summarizing, however, the percentage negative for the unirradiated and irradiated groups as a whole is computed.

(*a*) *Outcome of Exposures in Unirradiated Classrooms.*—Despite the small number of exposures in each group, the chance that an exposure in an unirradiated classroom will cause other cases increases with increasing susceptibility with a surprising regularity.

6. Enders, J. F.: Observations on Immunity in Mumps, Ann. Int. Med. **18**: 1015-1019, 1943.

Thus of 13 exposures to chickenpox in unirradiated classrooms where classes were less than 20 per cent susceptible, not a single exposure gave rise to a secondary case. Of the 15 exposures in classes 20 to 39 per cent susceptible, only 2 caused infection of other children; in classes 40 to 59 per cent susceptible, less than half the exposures caused other cases. But in classes over 60 per cent susceptible only 3 of 11 exposures failed to result in other cases.

When corresponding susceptibility groups are compared, it is seen that a greater percentage of exposures to measles (table 2) resulted in secondary cases than did those of chickenpox. The cases are largely grouped in classes of lower susceptibility, and therefore, although the pattern is similar, it is less regular in the groups of higher susceptibility. In classes less than 20 per cent susceptible, only 2 of 14 exposures caused further cases, while in classes over 20 per cent susceptible, only a third failed to cause other cases.

In table 3 similar data are given for mumps, though the limited dependence to be placed in the susceptibility grouping has already been mentioned. While the susceptibilities are almost certainly high, and therefore not comparable to those of other diseases, there is no reason to assume that either the irradiated or the unirradiated groups are disproportionately high or low. It is seen that mumps required for spread a higher percentage susceptibility as given by previous clinical attack than did chickenpox. However, since these susceptibilities are almost certainly high, the true percentage may well correspond to those of the other two diseases.

(*b*) *Outcome of Exposures in Irradiated Classes.*—As is seen by the three tables, the ultraviolet lights increased, in all susceptibility groups and in all three diseases, the chance that an exposure would be negative, that the chain of infection would be broken. I do not consider that these figures represent the maximum benefit to be derived from radiant disinfection. The experiments were exploratory, begun at a time when radiant disinfection of air was a new art, hardly out of the laboratory, and were conducted during a period when technical and administrative problems were being solved.

Comparison of the percentage of negative exposures in the irradiated and unirradiated classrooms shows the difference to be greater in classes of high susceptibility, presumably because in classes of lower susceptibilities sanitary ventilation is ordinarily sufficient to prevent the spread of infection with or without any added effect of disinfection of the air. Moreover, the reduction effected by the lights in productive exposures is, while definite, irregular. Thus, in the case of measles there was actually a higher percentage of negative exposures in the classes 80 to 100 per cent susceptible than in any other group. To those who have followed the experiments closely, this suggests that no one cause has been responsible for secondary cases under the lights, but a number of causes, some preventable, some inherent in the method. Of the latter the most serious is high relative humidity of the air, ultraviolet rays being relatively impotent against micro-organisms suspended in air more than 60 per cent saturated. (Thus the productive exposures to mumps in the 80 to 100 per cent susceptibility group of the Swarthmore school occurred in an early fall outbreak, September-November, before heating the indoor air dried it.) Unavoidable too are the secondary cases when droplet infection is too direct for action of indirect irradiation to be effective. (In May 1938 a first grade child in an irradiated classroom infected with measles 3 small classmates who sat facing her at a table, no children at other tables being infected.) In the case of exposures preventably productive, that is, "breaks" in technic, inadequate servicing of the lights, either as to cleanliness or in testing deterioration and in replacing burners whose output has fallen, is the most serious administrative problem. Misunderstandings as to the principles on which the lights work play a part, as, for example, when we found the lights of one school draped with autumn leaves and Spanish moss for the Thanksgiving festivities. Again, a first grade outbreak of German measles, 9 little girls infected from another little girl, was apparently due to the acquisition of a playhouse within the schoolroom—reproducing in miniature the exact situation the lights were designed to prevent.

SUMMARY

1. The school ventilation standard of 30 cubic feet of air per minute per child is both difficult to attain and inadequate to prevent classroom spread of chickenpox and measles except in relatively immune classes (less than 40 per cent susceptible to chickenpox, less than 20 per cent susceptible to measles).

2. Radiant disinfection of air can be substituted for actual air replacement. In the experiments reported here, the ultraviolet lights increased, in all susceptibility groups and in the three diseases tested—chickenpox, measles and mumps—the chance that an exposure would be negative.

PENICILLIN IN THE TREATMENT OF CHRONIC INFECTIONS OF THE LUNGS AND BRONCHI

AN ANALYSIS OF NINETY-THREE CASES

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Penicillin is the most effective and least toxic antibiotic in general use today. As with all new chemotherapeutic agents, the initial widespread use of penicillin will become more completely defined as its field of usefulness becomes more fully understood. The value of penicillin in the treatment of acute medical and surgical infections is well established. Only by clinical investigation can its value be determined in the treatment of chronic diseases. Chronicity in pulmonary infection introduces factors not present during the acute stage. The presence of complicating mechanical factors such as tissue destruction, fibrosis, avascularity and bronchial occlusion all influence the efficacy of penicillin therapy. Furthermore, chronic pulmonary infections have a varied bacterial flora, and some of the organisms may not be penicillin sensitive. In contrast to the unparalleled value of penicillin in the treatment of acute pulmonary infections, it is of more limited value in the treatment of chronic pulmonary and bronchial infections.

Ninety-three patients with chronic infections of the lungs and bronchi were treated with penicillin. Forty-five of these patients had bronchiectasis, 17 had lung abscesses, 6 had suppurative pneumonitis, 19 had chronic bronchitis and 5 had fungous infections. The

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results of penicillin therapy in the treatment of these patients will be presented and the indications for penicillin will be discussed. This group is of further interest because the patients with bronchiectasis and chronic bronchitis were treated first by intramuscular and later by intratracheal penicillin. As a whole, the greater the degree of permanent tissue destruction and infection, the less benefit was derived from penicillin. This is demonstrated by the partial or transitory results obtained in advanced bronchiectasis, pulmonary suppuration and chronic lung abscesses as contrasted with the excellent results obtained in chronic bronchitis and minimal bronchiectasis. Penicillin has been found to be of value in the treatment of acute exacerbations with increased toxicity, superimposed attacks of bronchopneumonia, chronic bronchitis, minimal bronchiectasis and advanced bronchiectasis too widespread for pulmonary resection. It is also of value in preparing the patient for operation, as an adjunct to surgery making possible operative intervention otherwise impossible and in decreasing the postoperative complications. Benefit derived from penicillin therapy may be only transient; consequently operative intervention when indicated should not be withheld because of a false sense of security.

BACTERIAL FLORA FOUND IN CHRONIC PULMONARY AND BRONCHIAL INFECTIONS

The bacterial flora found in chronic infections of the lungs and bronchi are varied. All of the patients had bronchoscopic examinations. Specimens were obtained for culture and for penicillin sensitivity determinations. No single organism appeared to be etiologically responsible. Cultures showed a combination of organisms with one organism predominating. The bacteria found in chronic bronchitis were similar to those found in bronchiectasis. The most common organisms isolated were alpha, beta and gamma hemolytic streptococci, Staphylococcus aureus and Pseudomonas aeruginosa. Less frequently found were Escherichia coli, Aerobactor aerogenes and Proteus vulgaris.

Anaerobic streptococci, fusiform bacilli and spirochetes (Borrelia vincenti) were more commonly found in patients with chronic lung abscesses and pulmonary suppuration. The streptococci were considerably more sensitive to penicillin than were the staphylococci. Eighty per cent of the streptococci were sensitive to 0.1 Oxford unit or less of penicillin. The other 20 per cent were susceptible to 1 Oxford unit or less. This may be compared to the greater resistance of staphylococci to penicillin. Only 44 per cent of staphyloccoci were inhibited by 0.1 unit or less and 37 per cent required more than 100 units of penicillin. The coagulase negative staphylococci were found to be more sensitive to penicillin therapy than the coagulase positive organisms. The sensitivity of bacteria to penicillin appeared to vary considerably according to the location of the infection and the type of infection from which they were isolated. Similar bacteria cultured from wounds (mainly battle casualties) showed far greater penicillin resistance than those cultured from bronchi. Many of both groups had had previous penicillin therapy.

PENICILLIN IN THE TREATMENT OF BRONCHIECTASIS

Penicillin is of no permanent value in the treatment of advanced bronchiectasis. Bronchiectasis is a chronic disease characterized by sepsis, cough, sputum, varying degrees of debility and repeated attacks of bronchopneumonia. There is bronchial and bronchiolar destruction, dilatation and chronic infection. The degree of disability is largely dependent on the degree of sepsis, which in turn is dependent on the adequacy of bronchial drainage. Penicillin is of considerable value in the treatment of the recurrent pneumonic episodes as well as in decreasing the amount of sepsis and toxicity during the interval stages. It frequently decreases the cough and sputum and increases the sense of well being. It occasionally changes the character of the sputum. However, as soon as the penicillin is discontinued these symptoms may recur. Advanced bronchiectasis is the end stage of a destructive process characterized by replacement of the normal bronchial architecture by less specialized tissue. The ciliated columnar epithelium is replaced by a nonciliated, cuboidal or squamous epithelium. The normal elastic and smooth muscle fibers are replaced by scar tissue. The mucous membrane surface is frequently ulcerated and the bronchial wall replaced by granulation tissue. Because of the loss of the normal cleansing action of the bronchial tree due to the loss of the ciliary action of the mucous membrane and the peristaltic action of the bronchial wall, stasis of exudate and resulting infection occur. The pathologic structure of bronchiectasis explajns the chronic state of sepsis and its recurrent periods of exacerbation. Penicillin is only of transient value in the treatment of this sepsis and is no assurance against the recurrence of infection.

During the past year over a hundred patients with bronchiectasis have been treated. Of these, 45 patients with suggestive histories of bronchiectasis were treated with intramuscular penicillin for bronchopneumonia at other hospitals prior to admission. Excellent results were obtained. However, a productive cough and some degree of sepsis persisted. Bronchograms substantiated the diagnosis of bronchiectasis. Because of the gratifying results obtained during the period of acute exacerbation, intramuscular penicillin usually in the dosage of 25,000 units every three hours was continued for one to two months in most of these patients and as long as three months in 4 patients. The results obtained were intangible and difficult to analyze. However, it was felt that the majority obtained some benefit. In some patients the sputum decreased and changed in character. Others appeared to raise more sputum. Most patients felt that they were generally stronger and that their appetites were better. One third of the patients noted no improvement. Most of the benefit was noted within the first several weeks of treatment, and thereafter there was little change. Even though improvement was noted, some symptoms of sepsis and a productive cough persisted. Three to four weeks after the penicillin was

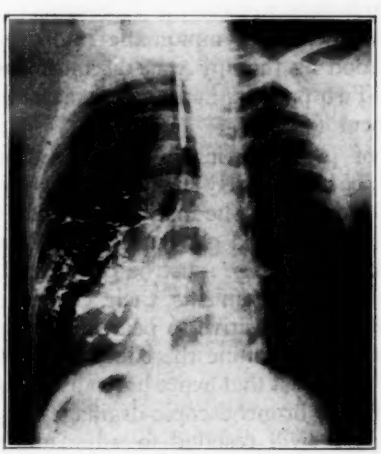

Fig. 1.—Extent of saccular bronchiectasis.

stopped symptoms became aggravated. No patient with advanced bronchiectasis appeared to obtain any permanent benefit from intramuscular penicillin. These patients had advanced bronchiectasis that only pulmonary resection by lobectomy could hope to cure. They were then transferred to this center for further treatment. Prior to pulmonary resection a course of intratracheal penicillin was given in an effort to determine any additional benefit that might be derived from this route of administration.

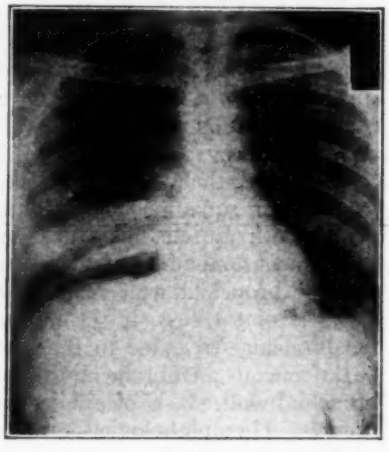

Fig. 2.—Chronic lung abscess of five months' duration that had an acute exacerbation while on penicillin therapy and required immediate drainage.

CHRONIC LUNG ABSCESS

Seventeen patients with chronic lung abscess were treated with intramuscular penicillin. The effectiveness of penicillin per se in the treatment of acute lung abscess cannot be determined from our studies, for only those patients who had not responded successfully to previous penicillin therapy were transferred to this center for surgical treatment. The toxicity in 4 patients demanded immediate drainage. The others were again given a trial of penicillin therapy intramuscularly. These patients as a group showed some decrease in toxicity, with a concomitant decrease in the pulse, fever, cough and sputum. Roentgenologically some decrease in the surrounding pneumonitis was occasionally seen. Only 1 patient healed completely. He had shown no previous response to sulfadiazine therapy. A second patient healed almost completely only to have the abscess recur. As a whole there was general symptomatic improvement. However, as soon as therapy was discontinued symptoms recurred. Two patients had acute exacerbations while on treatment (fig. 2).

The effectiveness of penicillin in the treatment of chronic lung abscess depends largely on the underlying pathologic changes in the lungs. The mechanical factors of tissue destruction, necrosis and gangrene as well as the adequacy of bronchial drainage must be considered. The identity of the causative organisms, their virulence and whether or not they are sensitive to penicillin must be known. These factors determine the clinical course of such infections. It is known that acute lung abscesses with adequate bronchial or bronchoscopic drainage may heal spontaneously. More will respond to sulfonamide and penicillin therapy. However, after a reasonable time has elapsed without healing, further medication with these agents should be supplemented by surgical drainage. There should be no competition of methods in the treatment of lung abscess. One treatment should be an adjunct to the other. Certainly penicillin should be employed even though it does nothing more than to prepare the patient better for operation and to lessen the postoperative complications. Eventually, surgical drainage was employed in all except 1 of these cases.

SUPPURATIVE PNEUMONITIS

Six patients with suppurative pneumonitis were treated with intramuscular penicillin. Four of these patients were treated elsewhere during the acute phase but progressed to chronic suppuration in spite of the penicillin therapy. Even though penicillin did not prevent or cure the pulmonary suppuration, it did decrease the degree of toxicity as well as promote symptomatic improvement. From this standpoint alone penicillin appeared to be of value. Most of these patients had been sick from six to twelve months prior to admission and had had two to four courses of penicillin therapy. When the extent of pulmonary destruction and infection is realized, the failure of chemotherapy alone is readily understandable. When the patient reaches the peak of improvement with penicillin, surgical therapy in the form of pulmonary resection or drainage is indicated. Four of these patients were cured by pulmonary resection and 2 had surgical drainage.

FUNGOUS INFECTIONS

Fungous infections of the lung may be primary or secondary. It is not uncommon to find fungi in the sputum of patients having such debilitating diseases as secondarily infected carcinomas, pulmonary suppuration or chronic lung abscesses. They are frequently found in company with spirochetes and fusiform bacilli. The fungus may be saprophytic and be of no clinical significance. When the fungus is the predominating organism causing the infection, considerable gravity exists because of resistance to therapy.

Five patients with fungous infections of the lungs have been treated with penicillin. Two had coccidioidomycosis, 2 actinomycosis and 1 patient had Monilia albicans infection. The patients with coccidioidomycosis and Monilia albicans infection had no apparent benefit from intramuscular penicillin. There was no change in the clinical course or the roentgen appearance of the lungs.

Actinomyces bovis is considered sensitive to penicillin therapy. Two patients with chronic pulmonary suppuration had Actinomyces cultured from bronchoscopic specimens taken from the affected lungs. Other organisms also were present, but the predominant organism appeared to be Actinomyces. The onset of the disease in these patients was insidious, the course progressive and characterized by periodic episodes of acute exacerbation. They were debilitated and septic and had a foul productive cough. Both patients had been previously treated with long courses of sulfonamide and penicillin with only transient benefit. After admission to this hospital these drugs were again employed. If drug therapy was stopped, toxicity soon increased, only to be relieved again after four to six days of chemotherapy. Penicillin appeared to be more effective than the sulfonamides, but the combination of the two was most effective. Though partial symptomatic improvement resulted with chemotherapy, no change in the pulmonary suppuration was noted roentgenologically. Apparent cure by pulmonary resection in combination with chemotherapy resulted in these 2 patients.

CHRONIC BRONCHITIS

The chronic bronchitis group comprised 19 patients. It included patients with ulcerative tracheobronchitis following viral and pyogenic infections as well as hyper-

plastic, asthmatic and catarrhal bronchitis. These patients had had numerous hospitalizations for recurrent bronchopneumonia, productive cough and varying degrees of disability over a period of years. Most of them had been treated at one time or another with intramuscular penicillin, with some benefit. Bronchograms failed to show any evidence of bronchiectasis. Though these patients had shown some response to intramusclar penicillin, dramatic improvement was noted following its intratracheal use. The course of the bronchitis following intratracheal penicillin was followed by periodic bronchoscopic examinations. The use of intratracheal penicillin in the treatment of chronic bronchitis and bronchiectasis will be discussed.

INTRATRACHEAL PENICILLIN

Until recently only three routes of penicillin administration were available, the intravenous, the intramuscular and the local application. Penicillin in its oral form had not been perfected. The intramuscular or intravenous administration of penicillin over any period of time is associated with considerable discomfort to the patient, necessitates continuous hospitalization and demands considerable nursing time. For these reasons and because of the fact that the infection in bronchitis is relatively superficial it was felt that the daily intratracheal application of penicillin would be of value. The first patients on whom this was tried had viral or pyogenic ulcerative tracheobronchitis. Bronchoscopy was done before, during and following intratracheal therapy. Complete healing of the ulcerative bronchitis was noted in several weeks' time, in contrast to several months' time with the usual forms of treatment.

Initially, 3 to 5 cc. of a saline solution of sodium penicillin containing 250 Oxford units to the cubic centimeter was used. This, at that time, was the accepted concentration of penicillin for local application. This concentration was later increased to 1,000, 5,000 and finally to 10,000 Oxford units to the cubic centimeter with no apparent irritating effect to the patient's tracheobronchial mucosa. It was impossible for the patient to tell what concentration was being applied. With this concentration as much as 30,000 to 50,000 units of penicillin can be applied daily or as desired to the tracheobronchial tree at one application. As much as 600,000 to 1,000,000 Oxford units of penicillin can be applied within a three week period. This is felt to be an effective dosage. A blood penicillin level as high as 0.03 Oxford unit as determined by the multiple tube dilution method using a sensitive strain of Staphylococcus aureus as the indicator organism can be obtained within thirty minutes following the intratracheal administration. With increasing concentration, increasing benefit was obtained. Those patients not relieved by the smalier concentration obtained relief with the larger dosage.

METHOD OF APPLICATION

The method of administration is the introduction of the penicillin directly through the vocal cords by means of indirect laryngoscopy and a flexible laryngeal cannula. The penicillin is injected at the end of expiration, thus necessitating an inspiration before coughng is possible. Many of the patients can take the intratracheal penicillin without coughing. The patient leans to the affected side during administration. If need be, penicillin can be injected on both sides. On coughing, patients can detect a penicillin taste as long as four to six hours after administration.

Most patients with chronic bronchitis believed that more benefit was obtained from the intratracheal than from the intramuscular use of penicillin. In patients with chronic bronchitis and minimal bronchiectasis almost complete relief of symptoms was obtained in two to four weeks' time. Every patient with bronchitis stated that definite improvement had been obtained. Patients with asthmatic bronchitis secondary to an intrinsic bacterial factor were also considerably improved. They noted a decrease in the cough and sputum, and relief from wheezing and the sensation of tightness in the chest. These patients felt that they were freer from symptoms than at any time since the onset of their disease. Several of these patients had been previously treated with intramuscular penicillin with some benefit, but they felt that the daily intratracheal penicillin was more effective. Patients with asthma obtain no relief from penicillin, and some may show sensitivity with resulting asthmatic attacks.

Forty-five patients with bronchiectasis were similarly treated. Thirty-eight patients had advanced bronchiectasis, and 7 patients minimal bronchiectasis. The 7 patients with minimal bronchiectasis obtained almost complete relief of symptoms. Two thirds of the patients with advanced bronchiectasis felt that there had been definite improvement from such treatment, but not to the extent noted in the less advanced conditions. Improvement in symptoms did not occur until after four or five days of treatment.

Some of the bronchiectatic patients noted less sputum and cough. Others stated that they could raise more easily and that there was an increase in sputum. Several improved to the extent that while on treatment the symptoms had so subsided that they felt lobectomy was not necessary. However, these were patients with advanced bronchiectasis and, after penicillin was discontinued, symptoms soon recurred and operative intervention was welcomed. The degree of improvement was usually, but not invariably, proportional to the severity of the disease and the acuteness of the infection.

Those patients with advanced bronchiectasis with severe secondary bronchitis were also treated preoperatively with intratracheal penicillin. They too noted alleviation of symptoms and considerable reduction in the productive cough. Healing of the secondary bronchitis was noted bronchoscopically. It was felt that the intratracheal penicillin was of particular value in the treatment of chronic bronchitis, in minimal bronchiectasis, in advanced inoperable bronchiectasis and in the preoperative preparation of lobectomy patients.

SUMMARY

The clinical use and value of penicillin in the treatment of 93 patients with chronic infections of the lungs and bronchi were studied. Penicillin is of unparalleled value in the treatment of acute pulmonary infections, but as chronicity develops it becomes less effective. Chronicity in pulmonary infections introduces factors not found during the acute stage which influence the

efficacy of penicillin therapy. These are the mechanical factors of tissue destruction, fibrosis, avascularity and bronchial occlusion.

Routine bronchoscopy was done before, during and after penicillin therapy. The course of the disease and the efficacy of treatment were noted. Bronchoscopic specimens were obtained for culture and penicillin sensitivity of the organisms isolated. Even though the sputum decreased in amount and evidence of sepsis diminished, the bacterial flora was not appreciably affected.

Penicillin appears to be of value in the treatment of acute exacerbations of chronic infections, superimposed attacks of bronchopneumonia, chronic bronchitis, minimal bronchiectasis and advanced bronchiectasis too widespread for pulmonary resection. It is also of value in preparing the patient for operation, as an adjunct to surgery making possible operative intervention otherwise impossible, and in decreasing the postoperative complications.

Penicillin is of no permanent value in the treatment of advanced bronchiectasis. Pulmonary resection should not be withheld when indicated because of the false sense of security resulting from temporary benefit.

In the treatment of pulmonary suppuration, chronic lung abscesses and fungous infections the chief value of penicillin is its ability to decrease the general manifestations of toxicity, to promote symptomatic improvement and to prepare the patient for operative intervention.

The intratracheal administration of penicillin in the treatment of chronic bronchitis and bronchiectasis appeared to give more benefit in many cases than the intramuscular route. As much as 30,000 to 50,000 Oxford units of penicillin can be applied daily in one application to the tracheobronchial tree. Excellent results were obtained in patients with chronic bronchitis and minimal bronchiectasis by this method.

It is of interest to note that the pathologic examination of 75 lobectomy specimens failed to show any appreciable difference in the degree of infection in 25 specimens in which penicillin had not been employed preoperatively, as compared to 50 specimens in which penicillin had been used.

Pulmonary resection for chronic sepsis with present day technics, anesthesia and chemotherapy is a safe procedure and can be recommended without hesitation. There was only 1 mortality out of 100 patients having lobectomy by us, an operative mortality of 1 per cent, which compares favorably with any other operative procedure.

Mental Hygiene in Later Maturity.—Aging is a normal biologic process or a series of processes, but it is usually hastened, exaggerated or modified in some fashion by abnormal or disease trends incident to life in a quantitative or qualitative relationship, trends which are sometimes not readily distinguished from normal senile developments. However, senility is the favorable time of life for the development of several serious diseases, diabetes mellitus and cancer, which complicate the general problem in specific ways involving any mental hygiene program that may be under consideration.—Lewis, Nolan D. C.: Mental Hygiene in Later Maturity, from Mental Disorders in Later Life, edited by Oscar J. Kaplan, Stanford University Press, 1945.

DISTORTIONS OF THE GASTRIC FEEDING REFLEX

ASSOCIATED WITH EXTRAGASTRIC PATHOLOGIC CONDITIONS: THEIR CLINICAL SIGNIFICANCE

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The walls of the normal fasting stomach are maintained in coaptation by a state of tonus of its muscular coats, with recurrent periods of superimposed peristaltic activity. With the first taste of food there follows an immediate relaxation of gastric tonus with usually a fairly complete inhibition of peristalsis, resulting in a widening of the gastric lumen to accommodate the expected food injesta. This is the normal gastric feeding reflex (fig. 1).

In the presence of various types of extragastric pathologic change, usually intra-abdominal or pelvic, this normal feeding reflex is distorted. Instead of relaxation there is an immediate increase in tone, with or without superimposed peristalsis. The degree of distortion roughly parallels the intensity of the sensory or psychic stimuli (fig. 2 *A* and *B*) and is not influenced by the degree of acidity of the gastric secretions (table 1).

TABLE 1.—*Gastric Analysis in Eleven Cases and Degree of Distortion of the Feeding Reflex*

Case		Degree of Acidity: Fasting	30 Min.	60 Min.	90 Min.	120 Min.	Degree of Distortion
13	Free acid	0	0	0	0	0	None
	Total acid	50	44	36	32	28	
15	Free acid	0	0	0	..	..	2 plus
	Total acid	28	44	50			
11	Free acid	0	0	0	0	0	1 plus
	Total acid	..	20	20	28	40	
12	Free acid	0	0	0	0	0	None
	Total acid	..	30	54	56	54	
14	Free acid	0	0	0	0	0	3 plus
	Total acid	..	..	..	..	..	
16	Free acid	0	0	0	0	0	2 plus
	Total acid	..	..	..	..	..	
2	Free acid	0	0	0	10	26	3 plus
	Total acid	44	70	68	92	90	
6	Free acid	0	0	0	0	38	4 plus
	Total acid	26	30	30	26	90	
4	Free acid	50	36	44	40	56	2 plus
	Total acid	80	66	94	120	92	
3	Free acid	80	12	0	0	0	4 plus
	Total acid	138	36	30	38	42	
5	Free acid	102	56	50	86	76	4 plus
	Total acid	136	106	88	118	118	

There apparently was no relationship between the degrees of acidity and the distortion of the reflex.

These distortions of the normal gastric feeding reflex are associated with characteristic symptoms referable to the stomach (table 2) and vary in severity with the degree of distortion of the feeding reflex (fig. 2 *B*). Other symptoms are usually associated and vary with the site of the pathologic condition initiating them, such as pain in the right upper quadrant in the presence of gallbladder disease, pain or distress in the flanks or pelvis associated with urologic or pelvic pathologic change, and so on. But the symptoms referable to the distorted gastric feeding reflex have certain definite characteristics, usually manifesting themselves by distress, a feeling of fulness, eructations, heartburn or actual pain in the epigastrium, left upper quadrant or substernal region. They all have one common characteristic and that is their immediate occurrence on the ingestion of food.

Read before the Section on Gastro-Enterology and Proctology at the Ninety-Fourth Annual Session of the American Medical Association, Chicago, June 15, 1944.

These symptoms are usually ascribed by the patient to "gas" and probably constitute the most common abdominal symptom complex encountered.

An understanding of the motor changes in the stomach and their mode of production, associated with these

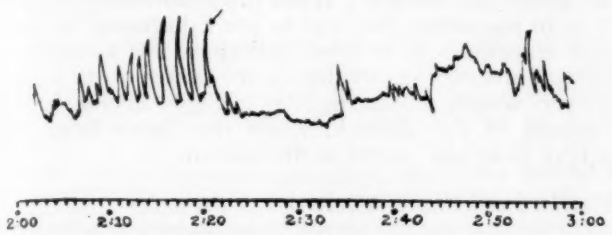


Fig. 1.—This tracing, of stomach of Mrs. M., shows the normal relaxation of the gastric musculature which occurs immediately with the ingestion of food. The patient was fed at the point indicated by the arrow. It will be noted that there was an immediate inhibition of peristalsis and relaxation of tone, with a gradual resumption of tone and peristaltic activity.

characteristic symptoms, is of inestimable value in the management of these otherwise sometimes difficult clinical problems, as shown in the case of Mrs. J., who had been attending the outpatient clinic for many months with vague postprandial epigastric distress and irregular, usually constipated bowel movements. These symptoms had been attributed to a pernicious anemia,

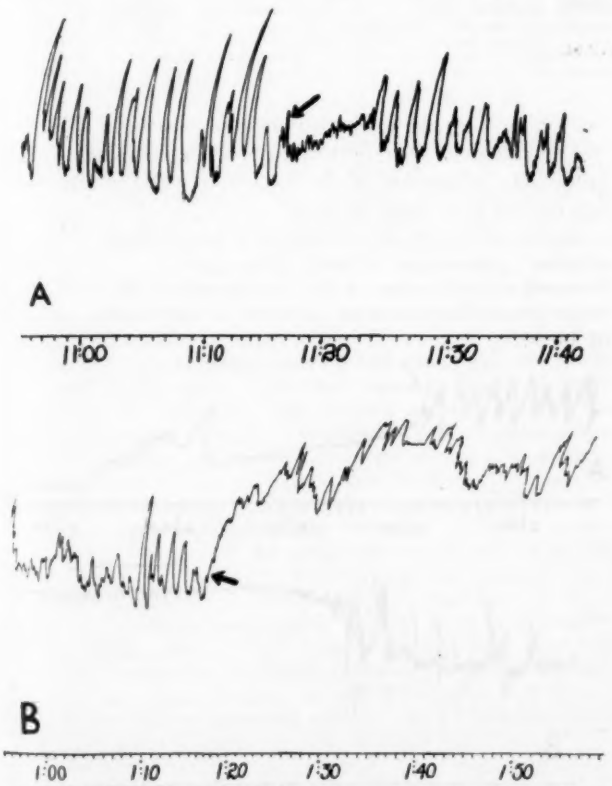


Fig. 2.—*A*, patient S. F., with irritable colon: moderate distortion of gastric feeding reflex; peristalsis inhibited; no normal relaxation. At point marked by arrow a shredded wheat biscuit with milk was given. Tracing shows very active peristalsis in the fasting stomach with inhibition of peristalsis with feeding and for several minutes thereafter, with a rapid resumption of peristalsis and tone, this being a moderate distortion of the gastric feeding reflex associated with a moderate stimulation from the colon. *B*, Mrs. D., with chronic appendicitis: pronounced distortion of gastric feeding reflex with considerable increase in tone. Tracing shows decided inversion of the gastric feeding reflex with much increase in tone and superimposed peristalsis, symptom severity being 4 plus and distortion of the feeding reflex being 4 plus. At point indicated by arrow a shredded wheat biscuit with milk was given.

with complete achylia after histamine stimulation and a typical atrophic gastritis demonstrated gastroscopically. Her pernicious anemia responded satisfactorily to treatment, but her abdominal complaints continued. A repeated complete physical examination revealed only a moderate number of internal hemorrhoids, a moderate pectinitis and an associated well defined spasm of the anal sphincter.

A kymographic tracing before correction of her anal pathologic condition with an intragastric balloon was made after a fourteen hour fast. This tracing (fig. 3 *A*) showed a moderate distortion of the feeding reflex, comparable to the severity of her symptoms. A hemorrhoidectomy was performed, her abdominal symptoms completely disappeared, and five weeks later another tracing was made (fig. 3 *B*) which showed a normal gastric response to feeding as the result of correction of the pathologic condition in the anus.

Another patient, Mrs. M., complained of vague abdominal symptoms consisting of epigastric pressure and distress and nausea and vomiting. A complete survey, including gastrointestinal fluoroscopy and radiography, complete physical examination and routine laboratory studies, failed to reveal the cause of her distress. A urologic investigation was made and a

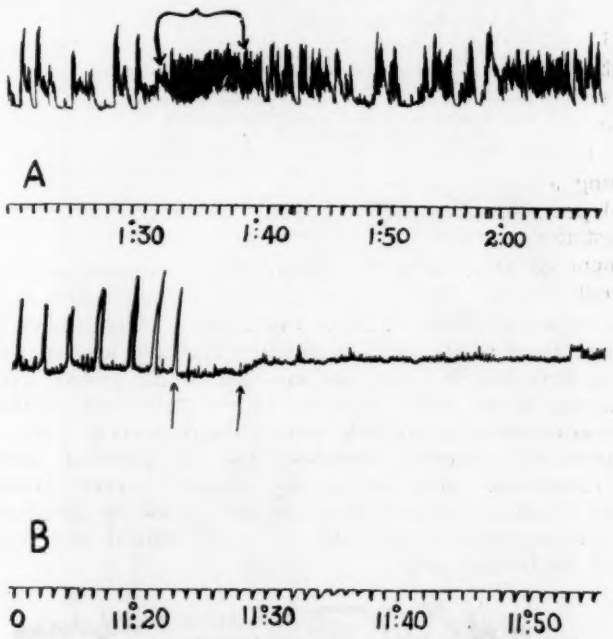


Fig. 3.—*A*, tracing of stomach of Mrs. J., who was fed at time interval indicated by arrows. Very rapid gastric peristalsis associated with hemorrhoids and an achylia and pernicious anemia. There is a moderate distortion of the gastric reflex consisting of a lack of inhibition of peristalsis and a slight increase in tone. *B*, tracing on the same patient showing a normal gastric feeding reflex five weeks after a hemorrhoidectomy. Feeding of meat and vegetables was given at interval indicated by arrows.

stricture of the urethra and left ureter was found. A kymographic tracing of her stomach was made in the usual manner (fig. 4) and showed an inversion of the gastric feeding reflex, with almost complete obliteration of the gastric lumen. Correction of the urologic condition resulted in complete subsidence of her abdominal symptoms. In this case, unfortunately, after subsidence of symptoms we were unable to obtain another gastric tracing.

Kymographic tracings were made on a dog's stomach, through a permanent gastric fistula, before and after a left sided ureterostomy. Figure 5 *A* shows a normal gastric feeding reflex before ureterostomy, and figure 6 *B* shows the distortion of the gastric feeding reflex after trauma to the left ureter. It will be noted that the distortion seen in this tracing of the dog's stomach is almost identical with that shown in the tracing on the human stomach (fig. 4) with pathologic change of the left ureter.

Kymographic tracings were made of 19 human stomachs with varying types of extragastric pathologic changes as outlined in table 2. In all these cases there was a fairly constant qualitative relationship between the intensity of symptoms and the degree of distortion of the feeding reflex. In 4 cases the sensory stimulation was apparently greater than the degree of distortion. This was in part explained by the patient's susceptibility to pain.

It is beyond the scope of this presentation to discuss fully the distortions of the gastric feeding reflex initiated by psychic stimulation. However, the experience of Mrs. A. rather theatrically demonstrates this relationship. She was in perfectly normal health and completely symptom free. She sought shelter under a tree from a sudden rain squall. The tree was struck by lightning and she was knocked to the ground but sustained no bodily injuries. From that time on she was emotionally unstable and promptly developed postprandial epigastric burning, fulness, pressure and eructations. Most careful and repeated surveys failed to reveal any organic lesion except an achylia gastrica. A kymographic tracing showed a well defined inversion of the feeding reflex.

It is evident from a wide clinical experience and the studies made on the motor activity of the stomach that, in the presence of the syndrome of postprandial epigastric distress, fulness, pressure, burning or pain and eructations, the stomach is almost the last place to look for pathologic changes. When this syndrome is present it is an immediate challenge to one's diagnostic acumen and constitutes a definite indication for a complete clinical investigation to identify the source of the extragastric stimuli producing the changes in the motor function of the stomach, which may arise from any source from the psyche to the rectum.

TABLE 2.—*Correlation of the Diagnosis, Intensity of Symptoms and Degree of Inversion of the Reflex*

Case	Diagnosis	Abdominal Symptoms	Symptom Intensity	Degree of Inversion
1	Chronic appendicitis	Postprandial epigastric distress, also right upper quadrant distress	4 plus	4 plus
2	Chronic appendicitis	Postprandial epigastric burning, eructations	2 plus	3 plus
3	Chronic appendicitis; duodenal ulcer	Postprandial epigastric pressure, eructations, abdominal soreness	3 plus	4 plus
4	Chronic appendicitis; duodenal ulcer	Postprandial epigastric distress, right lower quadrant soreness	3 plus	3 plus
5	Duodenal ulcer	Epigastric soreness, eructations	3 plus	4 plus
6	Chronic duodenal ulcer; moderate stenosis	Soreness left upper quadrant, eructation; occasional vomiting	3 plus	4 plus
7	Duodenal ulcer; cholecystitis	Severe epigastric and right upper quadrant pain	4 plus	4 plus
8	Hypertrophic hepatitis	General epigastric pain, eructations	4 plus	4 plus
9	Colon stasis; irritable colon; overeating	Epigastric pressure, eructations	2 plus	2 plus
10	Glossitis subacute; hemorrhoids; irritable colon	Epigastric burning	3 plus	2 plus
11	Pronounced colon stasis; irritable colon	Epigastric gnawing pain	1 plus	1 plus
12	Hemorrhoids; irritable colon; pronounced stasis	Epigastric fulness and pressure	2 plus	1 plus
13	Gastric neurosis; colon stasis; achlorhydria	Epigastric burning, pressure and eructations	3 plus	2 plus
14	Pruritus ani; achlorhydria	Epigastric fulness and soreness; eructations	1 plus	3 plus
15	Pernicious anemia; irritable colon; achlorhydria	Epigastric gnawing pain	3 plus	1 plus
16	Pernicious anemia; achlorhydria; hemorrhoids; colon stasis	Epigastric distress and eructations	1 plus	2 plus
17	Urethral and ureteral stricture	Epigastric fulness, distress; nausea and vomiting	3 plus	4 plus
18	Achlorhydria; gastric atony	Symptom free	.....	None
19	Achlorhydria	Symptom free	.....	None

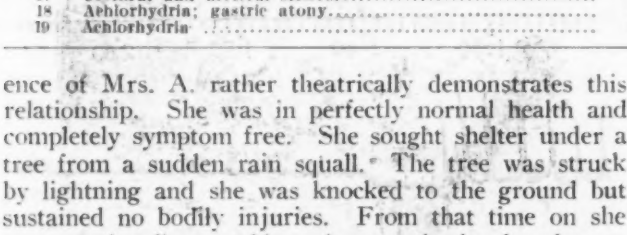


Fig. 4 (Mrs. M., hyperperistalsis).—Well defined distortion of the feeding reflex in the human stomach associated with urethral stricture and left ureteral stricture. Arrows point to feeding with 4 ounces of milk and potato gruel.

Clinically, emotional stresses are frequently encountered with the syndrome of postprandial epigastric distress. The common association of anorexia with grief, and the loss of relish of food with anxiety, hostility or resentment are common experiences.

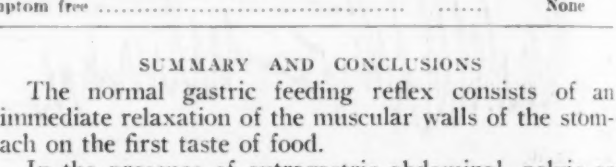
Stewart and Harold Wolf,[1] in observations through a permanent gastrostomy, have shown that in the presence of a psychic state of hostility and resentment there is an increased gastric motility associated with gastric hyperemia and hyperacidity.

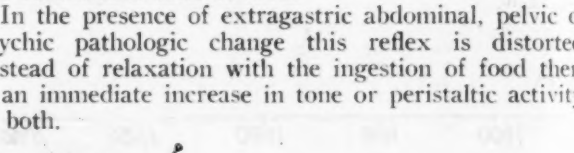
1. Wolf, Stewart, and Wolf, Harold, G.: Human Gastric Function: An Experimental Study of a Man and His Stomach, London, Oxford University Press, 1943, pp. 113-119.

SUMMARY AND CONCLUSIONS

The normal gastric feeding reflex consists of an immediate relaxation of the muscular walls of the stomach on the first taste of food.

In the presence of extragastric abdominal, pelvic or psychic pathologic change this reflex is distorted. Instead of relaxation with the ingestion of food there is an immediate increase in tone or peristaltic activity, or both.





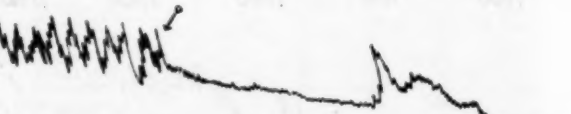


Fig. 5.—*A*, stomach tracing of dog, showing a normal gastric feeding reflex. At the point indicated by the arrow a feeding was given of ¼ pound of raw beef. *B*, tracing of same dog's stomach after a left ureterostomy, which shows a decided distortion of the feeding reflex. The dog was fed at the point marked by the double arrows. A great deal of similarity will be noted between the tracing of the dog and that of the human stomach shown in figure 4, both associated with a urologic pathologic condition.

The degree of distortion of the feeding reflex is roughly proportional to the intensity of the symptoms and is not influenced by the degree of acidity of the gastric secretions.

These distortions of the feeding reflex are almost invariably associated with a characteristic group of

symptoms initiated by eating and consisting of a feeling of fulness, pressure, distress, eructations, heartburn or actual pain in the epigastrium, left upper quadrant or substernal region.

These symptoms can be permanently relieved only by finding and correcting the extragastric pathologic condition producing them, as exemplified in the cases reported.

The abdominal symptom complex associated with distortions of the gastric feeding reflex is the most common one encountered by the gastroenterologist and the general practitioner. An understanding of these changes in the muscular activity of the stomach associated with extragastric pathologic conditions has been of inestimable value in rationalizing otherwise difficult clinical problems.

ABSTRACT OF DISCUSSION

DR. MORTON J. OPPENHEIMER, Philadelphia: There is abundant clinical evidence in support of Dr. Welch's views. Barron and his associates reported gastric hypermotility associated with epigastric distress. They concluded that sensory nerves of the stomach were stimulated by the abnormal motor activity; after cholecystectomy, gastric hyperactivity was recorded when patients complained early of gas pains and later of excessive hunger. As in Dr. Welch's patients, preoperative apprehension was found concomitant with increased motility. This increase or the inhibition depends on the preexisting tonus level of the stomach. Herniorrhaphy inhibited gastric motility followed by increased activity. The distention and inhibition during operation were considered to be the stimulus for the subsequent increased peristalsis, with resulting gas pains. Benign duodenal ulcer producing pyloric obstruction of short duration has also been shown to cause gastric hypermotility, which was initiated by the ingestion of food and abolished by atropine. Gastric motility recorded by experimental balloon methods may at times augment duodenal hyperactivity in duodenal ulcer. Croton oil applied to the mucosa of the proximal colon, appendix and gallbladder, or distention of these same viscera, augments activity of the stomach in experimental animals. This has been confirmed in the case of the colon for patients exhibiting epigastric distress. Distention of the ureters above 35 mm. of mercury caused gastric inhibition or hypermotility, while gallbladder intracystic pressures above 50 mm. of mercury was followed by loss in gastric tone and changed type of contraction with hypermotility; furthermore, urinary bladder distention caused gastric inhibition. The sensory pathway for this last was in the presacral nerve. Youmans and his associates showed that gastric tonus and motility decreased during mild mechanical stimulation of the anal canal and rectum. This was not prevented by vagotomy or adrenal demedullation but disappeared after splanchnic or lumbar chain resection; moreover, a mediator reflexly released at the abdominal sympathetic nerve ends during rectal stimulation was found to enter the blood stream and inhibit the intestine. Also, under other circumstances, increased intrarectal pressure may inhibit gastric tonus and motility. Brody, Werle, Meschan and Quigley showed that, even after vagotomy, swallowing food produces transient gastric inhibition followed by phasic changes of greater magnitude. Thus it may be seen that experimental evidence has furnished an ample framework for the support of Dr. Welch's views.

DR. PAUL B. WELCH, Miami, Fla.: Dr. Oppenheimer has made reference to the inhibition of gastric motility by stimuli arising from extragastric viscera. This inhibition is not confined to the stomach but occurs throughout the entire digestive tube. Adynamic ileus frequently occurs with kidney colic, simulating acute mechanical intestinal obstruction. In previous studies of the viscerovisceral reflexes, with a balloon introduced in the colon, reflex disturbances in the colon motility were initiated by trauma to the right ureter. There was first inhibition of motor activity, followed by a prolonged and gross increase in muscle tone and peristalsis in the colon. It is probable that the same mechanisms operate to cause the distortions of the feeding reflex in the stomach as in the rest of the digestive tract.

Clinical Notes, Suggestions and New Instruments

A DEVICE FOR PROTECTING THE SKIN AND COLLECTING FLUID FROM FISTULAS

OR FOR KEEPING PENICILLIN SOLUTION IN CONTACT WITH A WOUND

LIEUTENANT COMMANDER GEORGE CRILE JR. (MC), U.S.N.R.

It is sometimes desirable to treat open wounds by application of penicillin solution. In cases when a penicillin saturated pack cannot be applied in such a way as to reach all the recesses or when the contour of the wound is such that it will not hold the solution, a device for sealing the entrance of the wound to retain the solution is of value.

In patients with external biliary fistulas the constant saturation of the dressings with bile makes the patient wet and uncomfortable. The same is true in the case of fistulas of the small intestine, and in addition secretions digest the skin if it is not protected. There is often a need for a device which will collect the secretions and at the same time protect the skin.

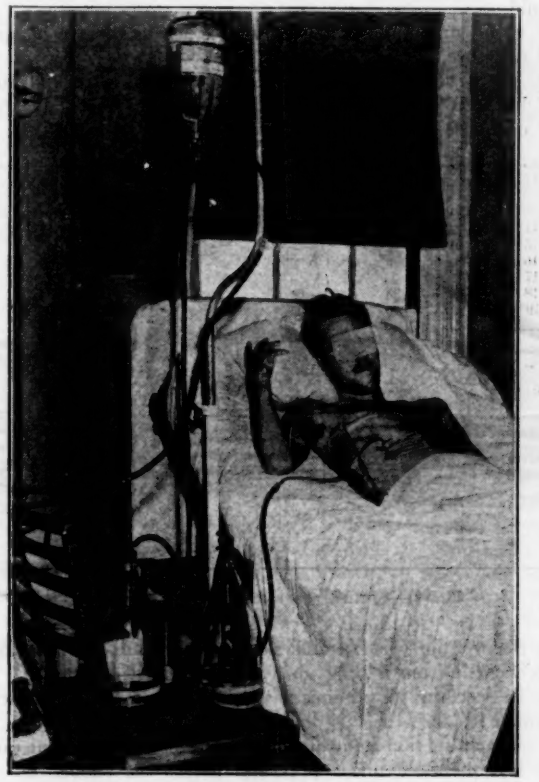


Fig. 1.—Suction apparatus for biliary fistula.

The need for some way to collect the fluid and protect the skin was quite urgent in the case of a nearly complete small intestinal fistula. The skin was not as yet eroded and it appeared as though a piece of rubber dam could be cemented to the skin around the opening in such a way as to protect the skin and at the same time allow the secretions to be collected. A catheter was first placed through a tiny hole in the center of a broad piece of rubber dam. The rubber dam was next covered with rubber cement and the skin similarly treated. The dam was placed over the fistula in such a way as to allow the catheter to lie in the wound, and the other end was attached to a Wangensteen suction apparatus. The suction successfully carried away the juices and kept a negative pressure

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against the rubber dam, so that it did not pull away from the skin. The patient was grateful to be able to lie in any position, to be dry and to have his skin protected from the painful digestion of the intestinal juices.

This device has been used on several small intestinal fistulas with satisfactory results. It is applicable to biliary fistulas if the patient is more comfortable than with the dressings wet or if it is desired to collect or measure the bile. It can also be used on any open wound or on any localized skin lesion in which it is desirable to keep a solution of penicillin in contact with the lesion for a considerable length of time. The penicillin can be introduced through the catheter, withdrawn periodically, and more of the solution inserted. If negative pressure and frequent irrigations are not required, the catheter can be eliminated and the penicillin injected by means of a small needle.

PRECAUTIONS

1. Make the hole in the dam very small and avoid wrinkling of the dam. Leaks tend to occur along wrinkles.
2. Cut several large holes in the catheter so that they will not become plugged with mucus or all lie against the side of the wound.
3. Clean the skin thoroughly with ether to remove all grease and moisture.
4. Put a very thin coat of cement on both skin and rubber and let both coats dry before applying the rubber. If applied wet or if the cement is too thick it will not stick well.

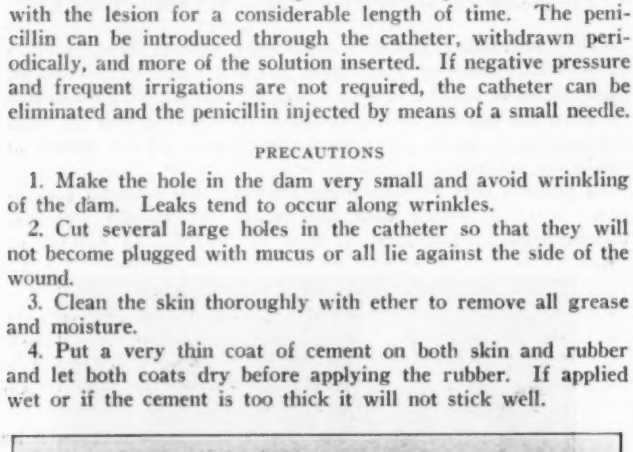

Fig. 2.—Suction apparatus used in open wound.

5. Secure the corners and sides of the dam with hemostats to prevent it from folding up when the cement is applied.
6. Be certain to eliminate all wrinkles which can act as potential leaks.
7. Attach suction immediately and never allow the suction to stop lest the fluid under pressure dissect the rubber up from the skin.

ADVANTAGES

1. The apparatus collects fluid for analysis or measurement.
2. It renders dressings unnecessary.
3. It can utilize Wangensteen suction instead of water or mechanical suction.
4. It keeps the patient comfortable and dry.
5. It allows the patient to change position.
6. It protects the skin.
7. The negative pressure appears to hasten the obliteration of an abscess cavity.

DISADVANTAGES

1. The device is not applicable after the skin is irritated and discharging serum.
2. It requires changing every five or six days as the old skin is desquamated.
3. It requires careful supervision of the suction apparatus.
4. It is not always applicable to wounds which are so small that the holes in the catheter are blocked by being in constant contact with all sides of the wound.
5. The skin is sometimes sensitive to rubber cement and blisters.

GASTROSTOMY IN POLIOMYELITIS

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Surgeon, U. S. Public Health Service, U. S. Marine Hospital
FORT STANTON, N. M.

Pharyngeal paralysis associated with difficulty in swallowing is not unusual in bulbar poliomyelitis, but this condition seldom persists more than a few days. Wilson [1] states that "difficulty in swallowing is transitory and the worst is usually over in one week." Physicians treating large numbers of poliomyelitis cases have, however, experienced situations on rare occasions when pharyngeal paralysis has persisted well over the week.

It has been shown that if life can be sustained through the acute phase of the disease there is practically always a 100 per cent recovery of the pharyngeal muscles. As a rule tube feeding is not too difficult, but dangers associated with this procedure are always present and must be avoided whenever possible. The three main hazards are (1) aspiration of mucus or vomitus with resulting bronchial obstruction and sudden cessation of respiration, (2) choking attacks with temporary severe anoxemia and cyanosis and (3) excessive fatigue. In the case reported here it was the latter which necessitated a gastrostomy as a life-saving measure.

Review of the literature reveals a surprising absence of case reports on pharyngeal paralysis. Brahdy and Lenarsky [2] reported 5 cases in which pharyngeal paralysis persisted from twenty-one to seventy-one days. The longest time interval found was in a case reported by Miller,[3] in which there was a complete inability to swallow for a period of eighty-six days. In all instances reported in the literature, nutrition was maintained by intravenous, subcutaneous and rectal routes, as well as by gastric gavage. After a thorough perusal of writings, not a single report was found in which a gastrostomy was performed to maintain nutrition. For this reason the present case was considered of sufficient interest to report.

REPORT OF CASE

History.—M. A. C., a white schoolgirl aged 12, was admitted on July 30, 1944 to the U. S. Marine Hospital at Fort Stanton, N. M., complaining of difficulty in swallowing. She first became ill on July 28, at which time she became nauseated, vomited and felt dizzy. The following morning she was seen by a physician because of pain in the head and teeth. Acute sinusitis was considered at that time because of purulent discharge observed from the sinuses. The following evening she was admitted to the hospital with the aforementioned complaints.

The past history was noncontributory. She had had measles, mumps and chickenpox with good recovery. She also had "acute food poisoning" at 6 years of age, following which her eyes had remained "weak." She had a tonsillectomy when 4 years of age but no other operative procedures.

The family history was entirely negative.

Examination.—On admission the patient was acutely ill and toxic. Her temperature was 101.6 F. and pulse rate was 120. There was pronounced nuchal rigidity, with loss of function of the anterior neck muscles demonstrated by complete inability to hold up the head when the shoulders were lifted from the bed. The patient had a decidedly nasal "twang" on speaking and there was a complete pharyngeal paralysis. Administration of liquids resulted in the return of these fluids through the nose. There was some evidence of rigidity of the paravertebral muscles and a diminution of the ankle and knee jerks bilaterally. Chest, heart and other systems were essentially normal. There was no evidence of other muscle involvement at the time of admission.

Laboratory Findings.—The blood count showed 5,000,000 red blood cells, 110 per cent hemoglobin, 12,800 white blood cells with 78 per cent neutrophils, and negative Kahn reaction. Urinalysis showed 1 plus albumin, a few blood cells and 20

Presented with the permission of the Surgeon General, U. S. Public Health Service.

1. Wilson, J. L.: Prognosis of Poliomyelitis and Treatment of Commonly Fatal Types, J. Michigan M. Soc. **42**: 955-958 (Dec.) 1943.
2. Brahdy, M. B., and Lenarsky, M.: Difficulty in Swallowing in Acute Epidemic Poliomyelitis, J. A. M. A. **103**: 229-234 (July 28) 1934.
3. Miller, L. A.: Paralysis of Deglutition and Respiratory Failure in Acute Anterior Poliomyelitis, Arch. Pediat. **56**: 339-346 (June) 1939.

to 30 pus cells. A spinal puncture, performed on July 31, revealed a slightly turbid fluid under normal pressure, while studies of this fluid demonstrated 1,250 cells, mostly polymorphonuclears, a 3 plus Pandy test and negative smear and culture for organisms. Spinal tap repeated three days later revealed the cell count to be down to 38 cells, with lymphocytes predominating. The spinal sugar was 62.5 mg. per hundred cubic centimeters and again smear and culture failed to reveal organisms. Repeated urine and blood tests were essentially normal except for gross blood in the urine on one occation. The blood level for sulfadiazine was 15 mg. per hundred cubic centimeters.

Clinical Course and Treatment.—The patient's temperature rose to 104 F. the day following admission and the patient was irrational. Sodium sulfadiazine was administered on the strength of the laboratory report of 1,250 cells with cloudy fluid and no report of spinal sugar findings. Hematuria was noted the following day and the drug was discontinued. The diagnosis of poliomyelitis appeared to be well established by this time; consequently further sulfadiazine medication was not indicated.

The patient's course was very stormy during the first week of hospitalization. She was confused, disoriented and irrational. Constant attendance was necessary for restraint and for aspiration of the thick glairy mucus which continuously collected in her throat. Her temperature ranged from 99.8 to 104 F. Feeding was accomplished by intravenous and subcutaneous fluids.

The patient complained of pain in the right deltoid muscles on occasion. Muscle spasm was noted of the hamstring muscles, chiefly the right. Increasing evidence of respiratory difficulty was manifested in irregular respiration and transitory apnea. The symptoms suggested spinal involvement along with bulbar poliomyelitis, and arrangements were made to secure a Drinker respirator from the Carrie Tingley Hospital at Hot Springs, N. M., a distance of approximately 150 miles.

On August 4 the patient became cyanotic and developed considerable respiratory difficulty. Caffeine and other respiratory stimulants were administered without benefit. It was not until the patient could be placed in the Drinker respirator that relief and freedom from respiratory difficulty was achieved. She regained normal color and sank into a sleep of exhaustion.

Attempts were made during the first ten days to pass a Levine and Rehfuss tube, but in each instance obstruction was encountered at the lower end of the esophagus. Feeding was continued by intravenous and subcutaneous methods, the rectal route having proved essentially unsuccessful because of inability to retain fluids. The necessity for other means of administering nutrition became increasingly obvious. An ear, nose and throat specialist was called from El Paso, Texas, and a Levine tube was passed under direct vision after considerable difficulty. The patient was weak and exhausted after this ordeal and begged that it be not attempted again. The tube was retained four hours, when it was regurgitated. Again we were faced with the problem of feeding by the intravenous route, which was made difficult because the patient could not be removed from the respirator. Another specialist was called from Albuquerque and this time, after three hours of strenuous effort, a Miller-Abbott tube was passed, leaving the patient in poor condition and obviously unable to stand another such procedure. She had severe pain for twenty-four hours following the passage of the tube. No feedings were given during this interval. The Miller-Abbott tube finally had to be deflated to relieve her pain. Fifteen hundred cubic centimeters of a concentrate mixture containing approximately 3,000 calories was administered daily by the gastric route. The patient's condition improved rapidly and she started to regain her strength.

On August 11 she was removed from the respirator for a short time without experiencing too much difficulty. The time interval outside the respirator was increased steadily, though gradually, during the following days, and on August 14 she was completely removed from the respirator. The patient showed evidence of spasm of both groups of hamstring muscles and some weakness of the quadriceps femoris on the left side. Kenny treatment was begun and continued until spasm was gone. Also on August 14 the stomach tube was vomited and gastric feedings were of necessity discontinued. She was then nourished by intravenous fluids, with amino acids added to the glucose. It became increasingly difficult to administer fluids by this route owing to sclerosis of the veins. The patient again showed signs of inadequate caloric intake and began to feel weaker and show obvious weight loss. She was now able to remain outside the respirator without respiratory decompensation, although her breathing was irregular when she was asleep.

On August 18 the patient's condition and the necessity for other means of feeding were discussed with the family. A gastrostomy was suggested, since the patient was still completely unable to swallow and since the patient's condition was favorable to allow the procedure at this time. With the family's consent a consultant from Albuquerque was called and a gastrostomy was performed under local anesthesia without difficulty. The patient was returned to her room in good condition and feedings were started immediately. The patient's response to adequate feeding was remarkable. She promptly regained weight and strength. Nine days after the operation the stitches were removed and a clean gastrostomy tube was reinserted. She continued to improve and on August 31 was able to swallow a small amount of fluid for the first time, but with considerable difficulty. The tube was left in place until September 10. By this time she was able to eat solids and drink liquids but had to take both types of food very slowly. Following the removal of the gastrostomy tube on the date mentioned the wound was apposed with flamed adhesive tape. The incision closed rapidly, without a sign of infection.

The patient continued to gain weight and strength and her muscles showed steady improvement. Her neck muscle function returned entirely and there was a rapid return of function to the hamstring muscles, although the hamstring and gastrocnemius muscles bilaterally were still tight. Likewise she still showed partial paralysis of the pharyngeal muscles and of the uvula. She was afebrile and felt fine when discharged from the Marine Hospital on September 20 to report at Carrie Tingley Hospital, where facilities were available for convalescent poliomyelitis care. She was seen at this institution on September 21 and allowed to return home, with instructions to take hot baths twice daily followed by muscle stretching exercises and to start walking. She was hospitalized at Carrie Tingley Hospital on November 4 for muscle tests and exercises and was discharged on November 21, at which time she was able to walk without calcaneal or Trendelenburg limp. She was able to swallow more easily and seldom strangled.

At the present time the patient reports by letter that she is feeling well and is improving. There is some residual weakness of the left leg with ½ inch difference in circumference as compared to the right leg. She is taking therapeutic exercises and muscle stretching maneuvers. She still experiences infrequent transitory pharyngeal "spasm" but states that she is able to eat at the regular rate. A complete palatal paralysis still persists on the left side.

COMMENT

As mentioned previously, this case, as far as could be ascertained from available literature, represents the first one of poliomyelitis in which a gastrostomy was performed. Some may question the advisability of the procedure, but at the time and with our facilities it seemed the wisest move. It is not intended to suggest a gastrostomy in cases with prolonged inability to swallow. However, after observing such remarkable recovery following the gastrostomy, one wonders if the operation might not be considered in cases in which extreme difficulty is encountered in passing a gastric tube. In view of the increasing and steady return of ability to swallow, it seems highly likely that the obstruction encountered was of a temporary nature, perhaps a "spasm" of the cardiac end of the esophagus. After all, it is known that spasm of numerous skeletal muscles occurs in this disease and it does not seem improbable that such an episode might occur in smooth muscles.

My transfer to another assignment precluded the opportunity for study of the lower esophagus with barium.

SUMMARY

A case was encountered in which a gastrostomy was performed for prolonged inability to swallow, associated with poliomyelitis.

ESCHERICHIA COLI MENINGITIS TREATED WITH SULFADIAZINE

MAJOR PAUL S. STRONG AND LIEUTENANT COLONEL JESSE E. EDWARDS
MEDICAL CORPS, ARMY OF THE UNITED STATES

Instances of meningitis due to the coliform group of organisms are sufficiently rare in adults to warrant the reporting of another case. The majority of the cases described have occurred in infants and children and have usually been associated with infections of the middle ear, the gastrointestinal tract, the urinary tract or the umbilicus.[1] Of 3,178 cases of meningitis due to all types of organisms, Neal [2] reported only 8 cases due to the coliform group. Stallworthy [3] reported 2 cases in adults, one presumably coincidental with intracerebral hemorrhage and the other secondary to extensive suppuration of the liver and biliary tract.

In the case to be presented the meningeal infection resulted from an abscess secondary to a penetrating wound of the sacrum (fig. 1).

REPORT OF CASE

A white soldier aged 24 was wounded in the back by a bullet on June 6, 1944. Emergency first aid treatment consisted of a dry dressing over the wound of entry, morphine, tetanus toxoid and oral sulfadiazine. He was admitted to a general hospital on June 13 complaining of fever and severe pain in the low back region. Sulfadiazine was continued in a dosage of 1 Gm. three times a day. On the third hospital day the temperature fell to normal and the sulfadiazine was discontinued. There was a small amount of purulent drainage from the wound on June 19, but the bullet entrance had healed on the 21st.

The white blood cell count on admission was 5,000 per cubic millimeter, the hemoglobin was 95 per cent (Tallquist) and the

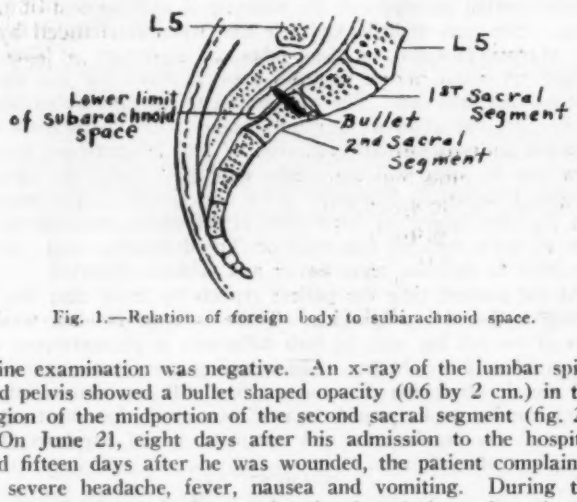

Fig. 1.—Relation of foreign body to subarachnoid space.

urine examination was negative. An x-ray of the lumbar spine and pelvis showed a bullet shaped opacity (0.6 by 2 cm.) in the region of the midportion of the second sacral segment (fig. 2).

On June 21, eight days after his admission to the hospital and fifteen days after he was wounded, the patient complained of severe headache, fever, nausea and vomiting. During the next twelve hours he became irrational, and signs of meningeal infection appeared. A lumbar puncture revealed cloudy fluid with 675 cells, 94 per cent of which were polymorphonuclear neutrophils. The spinal fluid sugar was 10 mg. per hundred cubic centimeters and on direct smear gram negative intracellular organisms thought to be diplococci were present.

Sodium sulfadiazine 5 Gm. was given intravenously, followed by oral sulfadiazine 2 Gm. every four hours. Although the temperature remained elevated, the patient showed considerable improvement at the end of eighteen hours. The improvement was not maintained, and during the next twelve hours he grew rapidly worse and became disoriented. At this time the etiologic agent was identified by cultural methods as Escherichia coli communis. Immediate surgical exploration of the healed bullet wound was done, although there was no evidence of local infection. A large subdural abscess was evacuated and a bullet measuring 0.6 by 2 cm. was found embedded in the sacrum and protruding into the subarachnoid space.

1. Barrett, G. S.; Rammelkamp, C. H., and Worcester, John: Meningitis Due to Escherichia Coli, Am. J. Dis. Child. **63**: 41-59 (Jan.) 1942.
2. Neal, Josephine B.: Diagnosis and Treatment of Meningitis, M. Clin. North America **19**: 751-769 (Nov.) 1935.
3. Stallworthy, K. R.: Meningitis Due to Bacillus Coli, New Zealand M. J. **42**: 165-167 (Aug.) 1943.

The bullet was removed, 100,000 units of penicillin powder was sprinkled into the cavity and a small rubber drain was inserted. The immediate postoperative course was characterized by considerable headache, backache and fever. Intensive and prolonged therapy with sulfadiazine, blood transfusions and intramuscular penicillin were given. The latter agent was used only after it was shown that the organism was slightly susceptible to its action.[4] On the third postoperative day, pronounced improvement was evident. Convalescence was satisfactory except for the severe but transitory low back pain and a persistent diplopia. A follow-up made six months after the onset of his illness showed that the patient was perfectly well except for faulty vision in the right eye, photophobia and diplopia. Visual fields were full and normal and fundic examination was negative, but vision in the right eye was only 20/200 uncorrectible. It was believed that the patient had a postencephalitic syndrome secondary to the meningitis with damage to the primary optic centers.

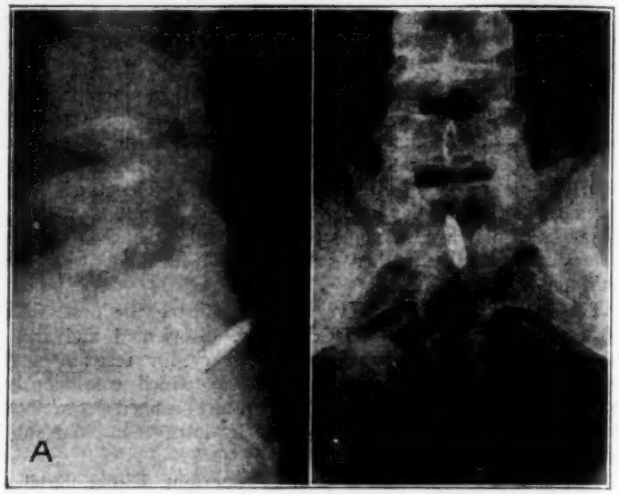

Fig. 2.—Location of foreign body.

BACTERIOLOGY

The organism cultured from the spinal fluid and the gram negative rod obtained from the abscess in the region of the sacrum gave identical cultural and biochemical reactions. On blood agar incubated for twenty-four hours at 37 C. aerobically, the colonies were large, raised, smooth, opaque, gray and nonhemolytic. The smears showed a short, plump, gram negative rod. They were nonmotile. On an eosin-methylene blue plate the colonies were of moderate size and smooth and they possessed a brilliant metallic sheen. There was no growth on Simmons citrate agar. The organism grew on Russell's double sugar slants, producing gas and acid in both slant and butt. The methyl red test was positive. Tests for indole production were positive. There was no liquefaction of gelatin. Milk was turned acid. Acid and gas were produced in glucose, lactose,

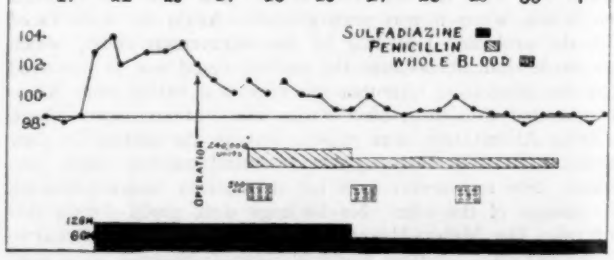

Fig. 3.—Clinical course and therapy.

4. Gladys L. Hobby (personal communication to the authors) also found that penicillin in large amounts has some effect on many of the gram negative organisms, especially the enteric group.

dulcitol, mannitol and maltose. There was no fermentation of sucrose. These cultural and biochemical reactions are characteristic of E. coli communis.

COMMENT

Sulfonamides are frequently used prophylactically in the treatment of battle casualties. Such therapy may serve to mask a persistent infection and later extension may occur without obvious local inflammatory changes. We believe that the course of this patient illustrated such a sequence of events.

There is considerable evidence that sulfonamide drugs are relatively ineffectual in the sterilization of purulent collections. In our case, although there was a definite response to the initial chemotherapy, recovery occurred only after adequate drainage of the focus and removal of the foreign body.

SUMMARY

As a result of a penetrating bullet wound in the region of the second sacral segment, an abscess formed which ruptured into the spinal subarachnoid space and produced an acute purulent meningitis. Intensive chemotherapy brought about temporary improvement, but recovery occurred only after surgical drainage of the abscess.

Council on Pharmacy and Chemistry

REPORT OF THE COUNCIL

The Council has authorized publication of the following statement.

AUSTIN SMITH, M.D., *Secretary.*

MEETING OF THE COUNCIL ON PHARMACY AND CHEMISTRY

The Council on Pharmacy and Chemistry of the American Medical Association convened at the Association headquarters on March 9, 1945. Those in attendance were Drs. David P. Barr, S. W. Clausen, Morris Fishbein, E. M. K. Geiling, Robert P. Herwick, James P. Leake, Perrin H. Long, Stuart Mudd, E. M. Nelson, W. W. Palmer, Elmer Sevringhaus, Austin Smith and Torald Sollmann. In addition to members of the headquarters staff there were present Drs. Eben J. Carey, Anthony C. Cipollaro and A. U. Desjardins from the Council on Physical Medicine, Mr. C. S. Ladd from the Council on Foods and Nutrition, Dr. Herman L. Kretschmer, President of the American Medical Association, Dr. J. J. Moore, treasurer of the Association, Dr. Ernest E. Irons, Secretary of the Board of Trustees, and Dr. Stanley Weld, Dr. E. M. Shanklin, Dr. L. Fernald Foster and Dr. John S. Bouslog from the Advisory Committee of the Cooperative Medical Advertising Bureau.

The following is an abstracted report of some of the more important discussions and actions:

Food and Drug Requirements for Adequate Directions on Label.—Some regulations provided by the recent amendments of the Food, Drug and Cosmetic Act were reviewed. It was apparent that the Food and Drug Administration is pursuing objectives held desirable by the Council, and no formal action was taken.

Promiscuous Use of Vitamins.—Discussion was given to recent experimental work which suggests that it is possible to give excessive doses of vitamins, particularly members of the B complex, in the presence of certain infections. In experimental animals it has been possible to increase the probability of developing paralysis and a fatal outcome in anterior poliomyelitis by increasing the intake of thiamine hydrochloride. Warnings have been offered that a number of virus infections have been made worse even by adequate, certainly by excessive, vitamin intake. Further, there is some evidence that there may be an antagonism between administration of members of the B complex and certain therapeutic preparations. Such findings indicate the need for further studies concerning vitamin therapy.

Cosmetic Creams Containing Estrogen.—Further consideration was given to this subject. Since the meeting, a report on "Status of Cosmetics Containing Hormones" has been published in THE JOURNAL (June 16, p. 515).

External Use of Sulfonamides.—The external use of sulfonamide preparations was reviewed, and first hand as well as published information studied. Since the meeting a report on "Dangers from the External Use of Sulfonamides" has been published (THE JOURNAL, August 4, p. 1024).

Use of Council Name in Advertising of Nonaccepted Preparations.—Occasionally reference is made to the Council on Pharmacy and Chemistry and to the American Medical Association in such a way as to imply acceptance by or favorable opinion from these bodies when such is not the case. It was moved and adopted that, whenever the name of the Association or the Council is misused in relationship to the promotion of new drug products, the Secretary be automatically authorized to write requesting the discontinuance of such use.

A. M. A. Cooperative Medical Advertising Bureau.—Discussion was held with members of the Advisory Committee of the Cooperative Medical Advertising Bureau, and some of the joint problems were outlined. A committee was appointed to be available for questioning by and to provide assistance to the Cooperative Medical Advertising Bureau.

Radon Ointment.—The status of radon ointments, which are said to be radium emanation (radon gas) incorporated in ointment bases, was reviewed and the subject referred for joint study by the Council on Physical Medicine and the Council on Pharmacy and Chemistry.

Therapeutic Trials Committee.—Further discussion was given to the status of this committee. Since this meeting an informal conference has been held with representatives of industry chosen by the American Drug Manufacturers Association and the American Pharmaceutical Manufacturers Association and a brief account of this conference published (THE JOURNAL, July 28, p. 961).

Priority in Research.—The Council had been requested to devise a mechanism whereby individuals can record original contributions in research so that they might support claims for priority. The Council gave the matter careful consideration but considered it inexpedient at this time to undertake such a program.

Globin Insulin.—The status of globin insulin was reviewed, and it was agreed that the statement of actions and uses in N. N. R. should continue to serve as a guide in the preparation of the advertising claims offered for this substance.

Spanish and Other Translations of Council Publications.—This subject was again reviewed, but little progress was reported because of existing difficulties.

The Spread of Infectious Hepatitis by Contaminated Syringes and Needles.—The danger of the spread of infectious hepatitis by contaminated syringes and needles was discussed and a report authorized.

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

AUSTIN SMITH, M.D., *Secretary.*

PENICILLIN (See Supplement to New and Nonofficial Remedies, 1944, p. 18).

The following dosage form has been accepted:

LAKESIDE LABORATORIES, MILWAUKEE

Penicillin Sodium: 100,000 Oxford units in 20 cc. vials and 100,000 Oxford units in 20 cc. vials packaged with an accompanying 20 cc. vial of isotonic solution of sodium chloride.

SULFADIAZINE SODIUM (See New and Nonofficial Remedies, 1944, p. 199).

The following additional dosage form has been accepted:

SHARP & DOHME, INC., PHILADELPHIA

Sterile Solution Sodium Sulfadiazine 5% W/V: 50 cc. ampuls. Each 50 cubic centimeters contains sodium sulfadiazine 2.5 Gm. and distilled water q. s.

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SATURDAY, SEPTEMBER 15, 1945

THE PRESIDENT OUTLINES A PROGRAM

On September 6 President Harry S. Truman sent to the Congress an outline of the executive and legislative program which he considered desirable. He concluded his presentation:

> I shall shortly recommend a national health program to provide adequate medical care for all Americans and to protect them from financial loss and hardships resulting from illness and accident. I shall also communicate with the Congress with respect to expanding our social security system and improving our program of education for our citizens.

In the course of his presentation the President referred to several projects of specific interest to the public health. Many of the war agencies are carrying on functions related to medicine and the public health. The President urged that the Congress not yet adopt a resolution proclaiming a termination of the war or the termination of the emergency or the cessation of hostilities, since such a resolution would automatically cause the death of many war powers and wartime agencies before we are ready. Obviously the physicians, the medical students and the premedical students now held by the legislation declaring a war emergency would be released from such service within six months of the time of the declaration of the end of the emergency. In the absence of such a declaration the existing war agencies, including particularly the medical departments of the Army and Navy and the United States Public Health Service, should do their utmost to obtain the release of as many of these personnel as possible at the earliest possible moment in order to meet a gradually developing emergency in the provision of medical service to the American people.

The President has urged, as has already been noted, extension of the Selective Service to permit the induction of men between the ages of 18 and 25 for a maximum service of two years. Unless some provision is made for filling our universities and colleges with men in the premedical, preengineering, predental, prepharmaceutic and similar courses, our country will find itself in a grievous situation for the training of scientists even before 1948.

The President urged on the Congress the early adoption of legislation for the establishment of a single federal research agency. He recognized that science cannot be dictated to or regimented. During the time necessary to organize a national research agency, he requested the Office of Scientific Research and Development and the Research Board for National Security to continue their work.

The confusion that prevails in the disposal of surplus property is more than even the most radical of newspapers has been able to reflect. Physicians are coming out of the service who desire to avail themselves of surplus property in order to reestablish themselves in medical practice. Hospitals, which have deteriorated in the quality of their service during the war because of inability to obtain new equipment, are anxious to obtain such surplus property at the earliest possible moment. The President admitted the confusion that prevails and urged the appointment of a single administrator, who may be able to bring some order out of the chaos and hasten the disposal of the billions of dollars of surplus property, much of which is related to the maintenance of health and the care of the sick.

Reform of the medical care now available in the Veterans Administration has been repeatedly indicated by a series of articles in lay and medical periodicals. The President recommended that the Congress give prompt consideration to the recommendations which had been made by the Veterans Administration for the purpose of clarifying and liberalizing the provisions relative to hospital and medical care. In a recent report Mr. Bernard Baruch suggested that the administration and delivery of medical service to veterans be completely separated from those functions that concern compensation, pensions and insurance provisions. This would seem to be well nigh a necessity as the first step in improving the quality of medical service given to the veterans.

As postwar construction projects, the President mentioned particularly the necessity for hospitals and health centers. Thus he said:

> The Congress has also been giving consideration to legislation with respect to the construction of hospitals and health centers throughout the country. . . . The federal government must continue to recognize its obligation to maintain and improve the health of the nation by providing federal grants where necessary for the construction of hospital and health centers.

These citations are but a meager indication of the innumerable problems related to the health and medical care of the people of the United States that will concern the Congress at this session. The medical profession must be alert to the legislative proposals that will be developed by the Congress in response to the suggestions of the President. Translation of these suggestions into legislation may introduce innumerable features of fundamental importance to the future of the practice of medicine in our country.

VIRUS MYOCARDITIS

A filter-passing agent that produces lethal myocarditis in anthropoid apes, mice, guinea pigs and rabbits has been described by Helwig and Schmidt [1] of the A. A. F. Regional and Convalescent Hospital, Miami Beach, Fla. In November 1944 the body of a well nourished adult male gibbon was brought to their laboratory. The animal had always been well, until one morning it suddenly dropped dead without previous indication of illness. The animal had not shown paralysis. Necropsy revealed a dilated heart, pericardial effusion, pulmonary edema and a bilateral hydrothorax. Microscopic examination showed an intense diffuse myocarditis and pulmonary edema, the remaining viscera being normal. Six weeks later a 5 year old well nourished male chimpanzee from the local Anthropoid Ape Research Foundation also died suddenly. The previous history also had been negative, and the same gross and microscopic findings were recorded as with the gibbon.

Fluid from the chest cavity of this chimpanzee was inoculated intravenously, intracranially or intraperitoneally into a series of mice. The mice developed paralysis by the fifth day and were all dead by the sixth day. On microscopic examination all showed acute myocarditis. As a control, chest fluids from 2 chimpanzees dying from other causes were similarly inoculated into mice, none of which developed symptoms or showed lesions of the myocardium when later killed.

The hearts from the first series of injected mice were ground in ascitic fluid and used for intravenous and intraperitoneal inoculation into a second series of mice. Half of the second series developed lethal myocarditis. Heart suspensions from the lethal cases were similarly injected into a third series of mice, all of which developed lethal myocarditis. By this technic the causative agent has been propagated through the fifth mouse passage with continual increase in mouse pathogenicity. The causative agent will pass through a Seitz or Berkefeld filter and will also produce interstitial myocarditis in guinea pigs and rabbits. Guinea pigs and rabbits, however, usually do not show an accompanying paralysis.

The virus is present in infective concentration in the nasal washings of inoculated mice. Mice may be readily inoculated by intranasal instillation. The agent is readily cultivated in embryonated hen's eggs and will stand heating to 56 C. for twenty minutes. It is completely destroyed, however, by heating to 70 C. for a similar time.

Demonstration of the viral etiology of anthropoid myocarditis is clinically interesting, since cases of this disease are strikingly similar to those of sporadic cases of human acute interstitial myocarditis of unknown etiology. As far as known, the anthropoid myocarditis virus has not been previously described. The nearest approach to this virus is apparently the rheumatic endocarditis virus recently described by MacNeal and his associates [2] of the New York Post-Graduate Medical School. Therapeutic and electrocardiographic studies of experimental viral myocarditis of rabbits and guinea pigs are now in progress in the Miami Beach Laboratory.

1. Helwig, F. C., and Schmidt, E. C. H.: Science **102**: 31 (July 13) 1945.

2. MacNeal, Ward J.: Blevins, A.; Slavkin, A. E., and Scanlon, H.: Science **101**: 415 (April 20) 1945.

EARLY OUTBREAKS OF INFANTILE PARALYSIS

In 1843 George Colmer [1] reported the occurrence in the fall of 1841 of some 10 cases of paralysis in teething children in the parish of West Felecia, La. This report has been regarded as the first record of an epidemic of infantile paralysis. Apparently, a few years earlier, in 1836, Sir Charles Bell, the celebrated anatomist and experimenter, inserted in one of his case reports [2] the following note about an epidemic fever with wasting of limbs among children on the island of St. Helena:

> A lady, whose husband was the English clergyman at St. Helena, consulted me about her child, who had one leg much wasted in its growth. In conversing about the illness which preceded this affection in her little girl, she mentioned that an epidemic fever spread among all the children in the island about three or five years of age; and her child was ill of the same fever. It was afterwards discovered that all the children who had the fever, were similarly affected with a want of growth in some part of their body or limbs! This deserves to be inquired into.

So far, no further reference to the St. Helena epidemic has been found in the writings on infantile paralysis.

Beginning in the early part of the last century the clinical reports of cases of infantile paralysis, singly and in small groups, steadily increased in the English, German and French literature. In Norway cases were observed as far back as 1820. In the first reports by orthopedic surgeons on clubfoot mention is commonly made of paralysis in childhood following acute illness. Monteggia [3] in 1813 described the disease in Italy. By 1850 it had become fairly well known that adults are not exempt. Two other early outbreaks may be mentioned: Black [4] observed 6 nonfatal cases in children from 1 to 8 years of age in Cambridge, Ohio, in the summer and autumn of 1858. Cambridge then had a population of about 1,500. Black states definitely that he did not see any other cases later. The cases he observed are well described. He speaks of the dis-

1. George Colmer's Report of an Outbreak of Epidemic Poliomyelitis in 1841, editorial, J. A. M. A. **127**: 924 (April 7) 1935.

2. Bell, Sir Charles: The Nervous System of the Human Body, as Explained in a Series of Papers Read Before the Royal Society of London, with an Appendix of Cases and Consultations on Nervous Diseases, ed. 3, London, 1836, p. 434.

3. Monteggia, G. B.: Instituzione chirurgicale, ed. 2, 1813.

4. Black, J. R.: Cases and Observations from my Note-book, Cincinnati Lancet and Observer **4**: 15, 1861.

ease as "a somewhat rare affection, infantile paralysis." In 1863 Bull [5] in Norway reported to the health authorities 14 cases with three deaths, which first were regarded as cases of meningitis but subsequently found to be cases of typical infantile paralysis.

The virus of infantile paralysis was widely disseminated long before the advent of the large epidemics which have been occurring since about 1885; the small outbreaks recorded by Bell, Colmer and others may be regarded as forerunners of the widespread, serious epidemics that confront the world today.

THE DISCHARGE OF MEDICAL OFFICERS

From the Office of the Surgeon General comes official announcement that some 13,000 to 15,000 medical officers will be discharged by the Army before Jan. 1, 1946. At present every possible effort is being made to rotate the men now in the service in order to return men now overseas as soon as possible. Authorities also want to give opportunity for practice in their specialties and for education in specialties to men who have had service thus far primarily as battalion surgeons.

Almost daily THE JOURNAL receives letters from physicians in the service who complain of wrong assignment, of failure to be promoted, of lack of sufficient duties to keep them fully occupied or for a variety of other causes. Regularly these statements have been sent, in the vast majority of instances without the name of the physician who wrote, directly to the Office of the Surgeon General, and every effort has been made to secure adjustment.

Beginning with next week THE JOURNAL will publish the names of medical officers discharged from the service as rapidly as they can be supplied by the Offices of the Surgeon General and the Adjutant General of the Army. Already there is a backlog of some several thousands of names of men who have been discharged for various reasons beginning almost with the date of the attack on Pearl Harbor. This published list will be arranged alphabetically by states and will include the name of the officer, the rank in the service and the place at which he was inducted into the armed forces.

Through the Bureau of Information of the American Medical Association medical officers are being supplied at the time of discharge with information regarding licensure and reciprocity in the various states, the names of responsible officials, the facts regarding facilities for practice, and the numbers of physicians in various counties as well as other information which is gradually being developed through this bureau. The Bureau of Information of the Association was established not only to aid the returning medical officer in relocation but also to encourage redistribution of physicians in order to meet the needs of communities that are without sufficient medical personnel. The Bureau will attempt to supply returning medical officers with information and advice. Requests from medical officers are welcome.

5. Leegaard, C.: Die akute Poliomyelitis in Norwegen, Deutsche Ztschr. f. Nervenh. **53**: 145, 1914.

Current Comment

THE HERSHEY CONFERENCE ON PSYCHIATRIC REHABILITATION

The Hershey (Pa.) conference (Feb. 1, 2 and 3, 1945) was planned to discover ways of increasing the resources of psychiatry and general medicine to meet the needs of men returning from the armed services with neuropsychiatric disabilities other than psychosis.[1] It was estimated that the number of men with such conditions may be considerably over 2,000,000: some 1,500,000 neuropsychiatric rejectees, 600,000 neuropsychiatric dischargees and 200,000 not so labeled but in whom a neurotic illness underlies or seriously complicates organic illness. The conclusion reached by the conference was that the recognized need for professional help in overcoming psychiatric handicaps is already too great to be met with the resources at hand and will increase sharply with general demobilization, with the stress of adjustment to civilian life and especially with deterioration of employment opportunities. The conference has recommended several measures, among them that the psychiatric training of picked medical personnel in military installations be continued and expanded. Facilities other than hospital care for the treatment of men with psychoneurotic reactions should be further developed in military installations in the hope that many more men can be retained in service for treatment which is not at present available in civilian life. The committee also recommended that the National Committee for Mental Hygiene should intensify its efforts to arouse and inform the public, and in particular the church, the schools, industrial management and labor, as to the needs and care of veterans with psychoneurotic reactions and to promote the training and efficient use of psychiatric social workers. Physicians engaged in the practice of general medicine need education on the neuroses and their care. For the graduate training of internists and general medical men already introduced to, or interested in, psychiatric aspects of medicine as a result of their war experience, fellowships should be made available, and these stipends should be large enough to attract men already well equipped professionally and with family responsibilities. Graduate training for comprehensive medical care would be facilitated if the American Boards of Internal Medicine and Pediatrics credited to a limited extent appropriate experience in psychiatry and if the American Board of Psychiatry and Neurology reciprocally credited appropriate experience in internal medicine or pediatrics. Training for the specialty of psychiatry should give increasing attention to the treatment of the psychoneuroses as they present themselves in both psychiatric and general medical practice.

1. The National Committee for Mental Hygiene, Inc., New York, 1945: Report of the Hershey Conference on Psychiatric Rehabilitation. Medicine and the Neuroses.

MEDICINE AND THE WAR

NAVY

HEALTH CONDITIONS IN THE NAVY

Statement by Vice Admiral Ross T. McIntire (MC), U.S.N., Surgeon General

HOSPITAL FACILITIES

Despite the surrender of Japan, the number of patients in naval hospitals within the continental limits will increase during the next few months. This is the logical result of the steady evacuation to the United States from Pacific areas of hospitalized personnel.

Although the normal capacity of statewide naval hospitals is 72,531 at present, the use of double-deck beds and adoption of other emergency measures has sent the actual capacity beyond the 100,000 mark. For the week ended August 15 the patient census was 89,798.

Today there are in operation, within the continental United States, fifty-four naval hospitals. Forty are general hospitals, thirteen are for convalescent care and one serves chiefly as a distribution hospital. With the possible exception of the last named institution, it does not appear that any of these fifty-four can be released for at least eight more months. When the time comes, our so-called special, or convalescent, hospitals will be the first to be relinquished, since all thirteen are housed in privately owned buildings which were volunteered to the Navy.

A new naval hospital at Houston, Texas, of permanent construction is scheduled to go into commission the first of next year. It will accommodate 1,000 patients.

Plans are well under way to establish a 1,500 bed hospital at Camp Wallace, Texas, utilizing facilities which have been turned over by the Army. These include a dispensary of 350 beds and several barracks buildings. Another army transfer is Camp White, in Oregon, which is due to be established within the next week with 1,500 beds. Still another transfer is Camp Phillips, Kansas, which we expect to get from the Veterans Administration and transform into a 1,500 bed naval hospital.

The Veterans Administration, on the other hand, will receive from the Navy three hospitals as soon as they can be released. They are the 1,000 bed facility at Dublin, Ga., which was commissioned last March, and two smaller ones in Texas which have not yet been constructed, one at Austin, which will be of permanent construction and have a normal capacity of 500 beds, and the other at Marlin, to consist of both permanent and temporary construction and have a capacity of 500.

Other postwar hospital plans, subject to change, call for:

A 500 bed hospital at Beaufort, S. C., to replace the outdated U. S. naval hospital at Parris Island, S. C., which is of World War I vintage.

A 1,000 bed hospital at St. Alban's, L. I., N. Y., to serve as the main institution of its kind in the Third Naval District, taking the place of Brooklyn Naval Hospital.

Another new plant of the same size to fulfil the same purpose for the San Francisco Bay area.

Investigation of the need for establishing, probably in the central part of the country, a naval hospital for psychotic (insane) patients, having a capacity of 1,500 patients.

Study of the need for a permanent tuberculosis treatment center on the East Coast. Pulmonary cases, at present, are sent to the U. S. Naval Hospital, Sampson, N. Y., which is an emergency wartime facility of temporary construction.

EVACUATION OF NAVAL PATIENTS

Reports to the Bureau of Medicine and Surgery indicate that nearly 15,000 naval patients, including Marines, remain to be returned to this country from Pacific areas. Most of these are in Hawaii and the Marianas. They are distributed among twenty hospitals, with a relatively small number in transit aboard naval hospital ships.

Approximately 1,800 are being returned to the mainland weekly by surface ship and plane. At this rate the evacuation task should be completed by mid-October. This does not mean that it will then be possible to roll up our overseas hospitals. Many eventually will be disestablished, but others will have to be retained indefinitely to serve the continuing needs of the Navy. In fact, seven more are now in process of being set up: four fleet hospitals and one base hospital on Okinawa and two base hospitals in the Marshalls.

SPECIAL TREATMENT CENTERS

A sizable proportion of naval patients, particularly those suffering combat wounds, are under treatment at the special centers that have been created at certain of the naval hospitals.

During the week ended August 22, 937 amputees were in the wards of Philadelphia and Mare Island naval hospitals. For the same period Philadelphia had 47 blind patients and 483 deaf patients under treatment and rehabilitation. A total of 796 plastic surgery patients were in the wards at Bethesda, Md., Oakland, Calif., St. Alban's, N. Y., and San Diego, Calif. In the neurosurgery centers at the same four hospitals 1,331 patients were aboard.

Tuberculous patients under treatment at Corona, Calif., for the same week totaled 954, and there were 603 at Sampson, N. Y. Corona, along with Dublin and Palm Beach, also is a treatment center for rheumatic fever.

Since Pearl Harbor, amputation cases have totaled approximately 2,300, blindness 190 and deafness 3,100.

HEALTH OF THE NAVY

As the result of a combination of many factors, not the least of which was Providence, the Navy has come through in splendid shape with regard to conservation of manpower and the saving of life. The fact that 97 out of every 100 men wounded survived may be attributed to the adequate provision of whole blood and the shock preventing blood derivatives; to swift and efficient evacuation, most dramatically by air, to rear hospitals; to the high standards of personnel and equipment possessed by these hospitals; to the gains in knowledge that were made both in the prevention and in the treatment of wounds, injuries and disease; and, finally but far from least, to the skill and labor of our doctors, nurses and hospital corpsmen.

At home there was not a single epidemic of major proportions among naval personnel. Overseas the early problems of malaria and filariasis responded swiftly to rigid sanitary measures. With respect to these two infections, it is significant that the U. S. Marine Barracks at Klamath, Ore., a special activity established last year to recondition an alarmingly large number of Marines who fell prey, is now being utilized as an ordinary convalescent, or retraining, center because the problem which it was set up to combat is virtually solved.

Number One cause for admission to Navy sick lists, as well as for medical discharge, is mental disease. This includes not only the psychoses but the various psychoneuroses and lesser conditions which are completely curable in most instances. During the war years, from January 1942 through June of this year, 25.8 per cent of all naval medical discharges were neuropsychiatric cases. For the first half of 1945 the figure was 31 per cent. In 1944 mental diagnoses accounted for a number of cases which was only 1.4 per cent of total naval strength. In 1944 also the rate of neuropsychiatric admissions ascribed to naval service was one-half that in the existed prior to enlistment category. Another heartening development was that neuropsychiatric discharges for the first half of this year showed a 2 per cent decrease compared with 1944. Sixty-five per cent of naval psychotic patients made recoveries to the point where they may be discharged from hospitals in three months, an additional 15 per cent in the next three months.

NAVY TO RETURN V-12 STUDENTS TO INACTIVE DUTY

Approximately 8,500 students in the Navy V-12 Program pursuing medical, dental, theological, premedical, predental and pretheological training will start returning to inactive duty on November 1. The remaining 25,500 students in the Navy V-12 Program will either graduate or continue their training in college as apprentice seamen on active duty. Final disposition of all students in the program will be made by June 1946.

As previously announced, V-12 training at 69 of the 124 colleges and universities throughout the country with V-12 and NROTC units will terminate on November 1. Training will continue at 42 NROTC units and 13 V-12 units in the program and at 10 newly established NROTC units.

Approximately 5,700 medical and 1,450 dental students will remain on active duty until the end of the semester now current or starting before November 1. Another 1,500 V-12 students entering medical or dental school this fall will remain on active duty for one term. Medical and dental students will be returned to inactive duty as enlisted men and will subsequently receive probationary commissions in the Naval Reserve and be retained on inactive duty.

A total of 250 theological and 95 pretheological students will return to inactive duty as enlisted men at the end of the academic term now current or starting before November 1. Later those eligible will receive probationary commissions as ensigns in the Naval Reserve and be retained on inactive duty.

There are 1,056 premedical and predental students in the program who will return to inactive duty as apprentice seamen at the end of the current academic term on November 1.

V-12 trainees now enrolled in the NROTC or who are scheduled to be so enrolled on or before November 1 will be retained under instruction on active duty until June 1946 unless they become eligible for commissions or discharge from the service at an earlier date. Students specializing in engineering will continue their training after November 1 in the Navy V-12 Program as scheduled. Marine Corps students in the V-12 Program will continue their training after November 1.

Students in the Naval Aviation Preparatory Program who are either in college training now or who are scheduled to enter the program on or before November 1 will be retained under instruction on active duty.

MEDICAL STATISTICS DIVISION

In line with the reorganization of various divisions of the Bureau of Medicine and Surgery, a Medical Statistics Division has been established which requires the transfer to it of functions and personnel from the former Medical Statistics Branch of the Preventive Medicine Division.

The new division consists of (*a*) an Office of the Chief of Division, (*b*) a Statistical Planning and Analysis Branch, (*c*) a Statistical Processing Branch and (*d*) a Statistical Publications Branch. The chief of the division will be responsible to the chief of the bureau for the performance of all functions assigned to the Medical Statistics Division.

The Statistical Planning and Analysis Branch will determine medical statistical needs, carry out statistical projects, prepare statistical reports and publications, provide a statistical consulting service and maintain liaison with other military and civilian agencies.

The functions of the Statistical Processing Branch will be to collect, process, compile and tabulate medical statistics from naval activities and, where necessary, from other military and civilian agencies. To carry out these functions the branch will consist of (*a*) an Editing and Coding Section, (*b*) a Machine Processing Section, (*c*) an Annual Report Section, (*d*) a Monthly Report Section and (*e*) a Miscellaneous Reports Section.

The Statistical Publications Branch shall prepare, edit and review statistical reports and publications and shall consist of (*a*) an Editorial Section, (*b*) a Drafting Section and (*c*) a Copy Preparation Section.

NAVY AWARDS AND COMMENDATIONS

Commander Richard S. Silvis

The Silver Star Medal was recently presented to Comdr. Richard S. Silvis, formerly of Washington, D. C. The citation accompanying the award read "For conspicuous gallantry and intrepidity in action against the enemy Japanese forces while serving as surgeon of a Marine division on Iwo Jima, Volcano Islands, from Feb. 19 to March 16, 1945. At 2:20 on the morning of March 7, owing to an unforeseen number of incoming casualties urgently requiring whole blood, the supply at the division field hospital became depleted. Commander Silvis personally undertook the vital task of obtaining an additional supply. Just at this critical time an air raid alarm was sounded and all ships in the harbor started making smoke, reducing the visibility to zero. In coordination with the air raid alarm, the Japanese began dropping mortar shells. Because of the impenetrable smoke and darkness the road was indiscernible, but Commander Silvis, with utter disregard for his personal safety, walked in front of the vehicle, feeling his way by the ruts, guiding the driver by verbal commands. Arriving at his distination he obtained the vitally needed whole blood and retraced his steps through the darkness; the blood was immediately used, thereby saving many lives. His heroic conduct was in keeping with the highest traditions of the United States Naval Service." Dr. Silvis graduated from the University of Nebraska College of Medicine in 1931 and entered the service June 26, 1931.

Captain Charles P. Archambeault

A Gold Star in lieu of a second Bronze Star medal was recently presented to Capt. Charles P. Archambeault, formerly of Washington, D. C. The citation accompanying the award read "For meritorious achievement in connection with operations against the enemy while serving as surgeon for a Marine division during the planning, training and assault phases of the campaign for Iwo Jima, Volcano Islands, from Oct. 31, 1944 to March 16, 1945. During the planning and training phases of the operation Captain Archambeault's careful supervision, high ability and unceasing efforts were in great degree responsible for the unsurpassed health of the division's troops and for the timely and efficient preparations made to insure their continued health during the campaign. Landing on Iwo Jima under heavy fire and making frequent trips to the most forward aid stations, he unhesitatingly and without pause gave himself to the task of providing the best medical care for the wounded and for protecting the health of the troops. His efficient, wise and forceful leadership produced an outstanding record of medical care for the men and was instrumental in the magnificent success of the operation. His conduct throughout was in keeping with the highest traditions of the United States Naval Service." Dr. Archambeault graduated from Albany (N. Y.) Medical College in 1918 and entered the service Nov. 12, 1920.

Lieutenant Richard H. Wilcox

Lieut. Richard H. Wilcox, formerly of Pendleton, Ore., was recently awarded the Bronze Star. Commanding a medical company attached to the Marine 5th Amphibious Corps on Iwo Jima "he demonstrated exceptional qualities of leadership and resourcefulness in overcoming the difficulties of terrain and harassing enemy artillery fire to establish his medical company for the reception and treatment of battle casualties within a period of twenty-four hours." Dr. Wilcox graduated from the University of Louisville School of Medicine in 1934 and entered the service Oct. 19, 1942.

Lieutenant Commander Daniel Rakov

The Legion of Merit was recently presented to Lieut. Comdr. Daniel Rakov, formerly of Maybrook, N. Y. The award was given for his service, beyond the call of duty, while serving as medical officer on the U. S. S. *Suwannee*, Oct. 25-28, 1944, during the invasion of Leyte. Dr. Rakov graduated from Syracuse University College of Medicine in 1922 and entered the service Feb. 22, 1943.

ARMY

PROFESSIONAL TRAINING OF REGULAR ARMY MEDICAL CORPS OFFICERS

During the period of the emergency it has been necessary to place the bulk of Regular Army Medical Corps officers in administrative positions in the major commands of the Army. This necessary procedure has caused a shortage of adequately, professionally trained Regular Army Medical Corps officers to take up the care of the Army sick and wounded on the release of A. U. S. officers to civilian life.

In order that the Medical Department may be prepared to continue the excellent professional care of the sick and wounded in army hospitals, the Surgeon General has requested the chief of staff to authorize courses in professional training for Regular Army Medical Corps officers. This request has been approved, and a plan of training officers being relieved from administrative or other assignments where professional experience was not available has been developed and placed in operation. This plan calls for the assignment of Regular Army Medical Corps officers to installations where courses in professional training, eventually leading to board certification, is to be carried out. This plan calls for training, not only in military medical installations, but in leading civilian installations. Representatives of all major forces concerned have contributed to this plan, and officers assigned to any of these forces are eligible for the professional training.

This plan has been put into immediate operation in order that fully qualified Regular Army Medical Corps officers may be available to replace the presently highly qualified A. U. S. officers who are to be released in the present demobilization program and who are at present holding the top professional positions in army hospitals.

The Surgeon General is insistent that the noteworthy record of care of the sick and wounded in this war be maintained, and for this reason the far reaching plan which he has prepared places foremost the professional qualifications and continued professional training of the Medical Corps officers. It is the sincere hope of the Surgeon General that all Medical Corps officers of the Army of the United States give earnest consideration to a career in the Regular Army, and he feels that with the development of his present plan excellent opportunity for professional advancement will be afforded to all Medical Corps officers.

CAPTAIN HELEN W. BRAMMER AWARDED BRONZE STAR

Capt. Helen W. Brammer, formerly of St. Ansgar, Iowa, was recently awarded the Bronze Star for meritorious achievements in connection with military operations in North Africa and Italy. Describing her accomplishments from February 1943 to July 1944 the citation pointed out that, "as chief nurse, Captain Brammer regardless of personal sacrifice organized and administered without adequate assistance the nursing services necessary to operate the hospital. With patience, resourcefulness and leadership she aided members of the nursing service in the proper handling and care of the sick and wounded. During periods when her hospital was treating patients far in excess of its normal capacity she contributed materially to the success of the station hospital in rendering the highest possible medical services to the armed forces of the United States." Formerly with the University of Iowa School of Medical and Surgical Supervision, Captain Brammer has been overseas since Jan. 14, 1943.

WOUNDED KEEP TRACK OF OLD UNITS THROUGH "OUTFIT" MAGAZINE

Wounded personnel of the Army in hospitals throughout the United States are keeping track of their old outfits and comrades through the medium of *Outfit* Magazine, a publication of the Information and Education Division, Army Service Forces. The magazine is published weekly by the New York Branch, Information and Education Division, and consists of sixteen pages of news and pictures about army units at present overseas. It has provided a link between the hospitalized casualty and his original unit.

The first issue of *Outfit* Magazine was distributed in United States hospitals in November 1944. Since then the magazine has established bureaus consisting of one officer and enlisted assistants in every overseas theater. Each issue is distributed free to wounded veterans and consists of news material, grouped by theaters, of units ranging from divisions down to companies.

106TH STATION HOSPITAL AWARDED UNIT PLAQUE

The 106th Station Hospital, a unit of the Peninsular Base Section, was recently awarded the Meritorious Service Unit Plaque "for superior performance of exceptionally difficult tasks and outstanding devotion to duty." Col. Charles F. Fisher, formerly of Clarksburg, W. Va., is commanding officer of the 106th Station Hospital.

ARMY AWARDS AND COMMENDATIONS

Major General George C. Dunham

The Distinguished Service Medal was recently awarded to Major Gen. George C. Dunham of Washington, D. C. The award was conferred on General Dunham by the Surgeon General of the Army, Major Gen. Norman T. Kirk. The citation stressed the fact that General Dunham—called in an American Hospital citation the 'World's Greatest Bug Hunter'—has personally directed the Inter-American war against disease.

"Spending much of his time supervising field workers he directed the establishment of hundreds of health centers, clinics and medical posts which provide preventive and therapeutic services. Through General Dunham's performances in discharging duties of great responsibility, large populations in other Americas have benefited from expanded health and sanitation facilities. Standards have been raised and important forward steps have been taken in cooperative effort toward the economic development of the hemisphere."

The citation also recalled that it was General Dunham who "originated and developed a broad principle which was applicable to republics with differing problems, sources and governmental structures." It gave him full credit for negotiating basic agreement for the Institute of Inter-American Affairs, an agency of the Office of Inter-American Affairs, which brought about "a comprehensive public health program in the other American republics."

General Dunham graduated from the University of Oregon Medical School, Portland, in 1914, entered the Army Medical Corps in 1916 and graduated from the Army Medical School in 1917.

Colonel Achilles L. Tynes

The Legion of Merit was recently awarded to Col. Achilles L. Tynes, Washington, D. C. According to the citation "As Chief of the Hospital Construction Branch, Hospital Division, Office of the Surgeon General, from September 1943 to February 1945 he displayed unusual foresight and excellent judgment in supervising the development and application of planning standards for the entire fleet of twenty-nine Army hospital ships and for hospital facilities on troop ships. His skilful work was a major factor in expediting the conversion of many merchant ships to this important war service, making it possible to provide high standard medical care near forward combat areas. At the same time he guided the planning, building requirements and construction standards of the hospital system within the continental United States during a period of tremendous expansion. He rendered services that contributed materially to the efficiency of the Army's medical service." Dr. Tynes graduated from the University of Virginia Department of Medicine, Charlottesville, in 1930 and entered the service June 16, 1930.

Major Douglas P. Head

Major Douglas P. Head, formerly of Minneapolis, was recently awarded the Bronze Star for his research in connection with the detection and treatment of peptic ulcers in the Mediterranean theater. Describing Major Head's meritorious achievements in North Africa and Italy from May 15, 1943 until cessation of hostilities there, the official citation stated that "during this period Major Head contributed in large measure to the development of policies to govern the detection, diagnosis, treatment and disposition of peptic ulcer in the Mediterranean Theater of Operations. As a result of his work the theater's handling of such cases was commended by the civilian consultant to the Secretary of War. In addition, as co-author of a monograph on theater experience with the disease Major Head contributed to an outstanding compilation of facts which was a model on which policies in respect to peptic ulcer in the armed forces of the United States were based." Dr. Head graduated from the University of Minnesota Medical School, Minneapolis, in 1927 and entered the service Feb. 16, 1942.

Colonel Wilford F. Hall

The Legion of Merit was recently awarded to Col. Wilford F. Hall, formerly of Bridgeport, Conn., for "service as chief of the Personnel Division, Office of the Air Surgeon, from February 1942 to February 1943. Following the declaration of war it immediately became apparent to him that the AAF would undergo an expansion beyond any peacetime perception. Aware of the urgent problem of staffing the many newly activated stations with medical officers, this officer conceived and developed a procedure by which physicians were solicited, physically examined and appointed in the Army of the United States for duty with the AAF. Through his efforts, initiative and devotion to duty he secured for the AAF the finest professionally qualified medical corps officers available and properly assigned these officers to stations where they could best serve the AAF and the war effort. The accomplishment of this tremendous and outstanding task contributed materially to the effective realization of the AAF mission." Dr. Hall graduated from Washington University School of Medicine in 1928 and entered the service Aug. 1, 1929.

Major Clyde J. Rademacher

Major Clyde J. Rademacher, formerly of Bend, Ore., was recently awarded the Bronze Star for his work with the First Army headquarters during the Normandy landings. Dr. Rademacher graduated from the University of Minnesota Medical School, Minneapolis, in 1930 and entered the service April 12, 1941.

Colonel Francis J. McGowan

The Air Medal was recently presented to Col. Francis J. McGowan, formerly of New York, "for participation in aerial flights over enemy territory, which included making numerous landings on air strips near enemy bases." Dr. McGowan graduated from Columbia University College of Physicians and Surgeons, New York, in 1921 and entered the service Oct. 2, 1942. He was previously awarded the Bronze Star and Oak Leaf Cluster (THE JOURNAL, May 19, 1945, p. 210).

Major James W. Brooke

The Soldier's Medal with Oak Leaf Cluster and the Air Medal were recently awarded to Major James W. Brooke, formerly of Madison, Wis., during his service with the 8th Air Force. Dr. Brooke graduated from the University of Oregon Medical School in 1938 and entered the service June 2, 1941.

MISCELLANEOUS

BRITISH AND FRENCH OFFER GRADUATE COURSES

In the first three months of a program of medical and surgical retraining for civilian practice, more than 300 army medical officers have attended six of the leading medical schools in England and France since June. In addition many officers have been placed by the Information and Education Division in Europe and the Office of the Chief Surgeon in numerous hospitals and clinics to observe British and French methods.

One of the English schools selected by the Office of the Chief Surgeon for a continuous program of observation and study is the British Post-Graduate Medical School of the University of London. At the Post-Graduate School medical officers take a six week course in which they attend classes conducted by leading physicians and surgeons of England, make ward rounds as observers and observe in the clinics and operating theater.

At the Hammersmith Hospital, which is cooperating with the University of London, classes are held by the Post-Graduate School in pathology, in general surgery and in obstetrics and gynecology. Two other hospitals in London are used by medical officers taking classes at the school, although they are not regularly used by the University of London. These hospitals are the Chelsea Hospital for Women and Queen Charlotte's Maternity Hospital.

There are courses in neurology at the National Hospital for Nervous Diseases, London, in psychiatry at the York Clinic of Guy's Hospital, London, and at the Sutton Emergency Hospital, Sutton, Surrey, and in orthopedics at Queen Mary's Hospital, London.

Courses are being conducted at Oxford University, the Royal Army Medical College and Liverpool University Medical School, while other courses will be offered at other times in additional schools.

In France the Information and Education Division placed thirty-five medical officers with the Faculté de médecine of the University of Paris as observers in clinical research, diagnosis and surgery in eight hospitals in the Paris area. Hospitals being used for these studies in neurology, psychiatry, gynecology and obstetrics are the Clinique Baudeloque, Hôpital Broca, Hôpital de la Pitié, Asile Sante-Anne, Hospice de la Salpêtrière, Clinique Tarnier, Hôpital de Vaugirard and La Maternité.

MEDICAL STUDENTS TO BE DEFERRED BY DRAFT BOARDS

A memorandum issued by Lewis B. Hershey, director of the Selective Service System, August 31, makes the following recommendation to local boards relative to deferments of medical students:

> 3. Special consideration for registrants ages 18 through 25 in certain activities: Local boards will give special consideration to the deferment of registrants for whom there is on file or is hereafter filed a Form 42A (Special—Revised) if they come within one of the groups described as follows:
>
> (*a*) Students in medicine, dentistry, veterinary medicine or osteopathy: Registrants ages 18 through 25 for whom a Form 42A (Special—Revised) is filed and in whose case the local board determines that they are pursuing a full time course of study in medicine, dentistry, veterinary medicine or osteopathy in a recognized school of medicine, dentistry or veterinary medicine or osteopathy until their graduation, and that they have completed a satisfactory preprofessional course prior to their entrance, will be given special consideration provided that a student of veterinary medicine should not be considered for occupational deferment if he commenced the study of veterinary medicine in a school of veterinary medicine on or after March 15, 1945. A "satisfactory preprofessional course" shall mean such work as is ordinarily required for entrance by medical, dental, veterinary medicine, and osteopathy schools of good reputation.

At the same time the central office of the Procurement and Assignment Service announced the discontinuance as of Sept. 15, 1945 of the plan for certification by state chairmen of registrants aged 18 through 25. Under the present Selective Service policy the deferment of registrants 26 years of age or more will be practically automatic.

ORGANIZATION SECTION

Washington Letter

(From a Special Correspondent)

Sept. 10, 1945.

Continuance of the Fight Against Venereal Disease and Prostitution

An appeal to communities to maintain wartime gains in the fight against venereal disease and prostitution was made by the Social Protection Division and Public Health Service of the Federal Security Agency, and the American Social Hygiene Association, in cooperation with the Army and Navy. "In 1918 a general relaxing of measures to curtail venereal disease followed the armistice," a statement pointed out. "We must not let history repeat itself. . . . This war against venereal disease is a fight on many fronts. All these sectors—health, law enforcement, ethics, economics and human dignity—are equally important. . . . During the war great gains have been made. These gains must be extended, not lost." District of Columbia Health Department officials are considering means of expanding the venereal disease treatment facilities of the capital, convinced that discharged servicemen, free of restraint, will become "more and more of a problem." Washington authorities are also studying the request of army doctors in Europe that the 1918 rule be imposed preventing diseased soldiers from boarding transports for home. They report a sevenfold increase in the venereal disease rate in the American occupied zone.

Disabled Veterans to Testify on Artificial Limbs

Hearings of the House Committee on Aid to the Physically Handicapped will resume in the Labor Committee room of the House Office Building when disabled war veterans will provide important information designed to aid civilians who have suffered loss of limbs. In addition to the Army and Navy amputees, witnesses will include representatives of the War and Navy departments, Office of Vocational Rehabilitation and other federal agencies and organizations. The committee, headed by Congressman Augustine B. Kelley of Pennsylvania, will study steps being taken to develop more satisfactory artificial appliances and the manner in which civilian amputees are being assisted by federal, state and private agencies. A representative of the Association of Limb Manufacturers of America, Inc., has been invited to the hearings, and there will be spokesmen present for the Veterans Administration, Office of Scientific Research and Development, Disabled American Veterans, American Legion, Veterans of Foreign Wars, American Veterans of World War II and American Federation of Physically Handicapped.

Termination of Federal Nurse Recruiting Program

President Truman has ordered immediate termination of the federal nurse recruiting program. The White House revealed that on September 6 Mr. Truman wrote to Surgeon General Thomas Parran of the U. S. Public Health Service instructing him "to terminate the recruitment of student and graduate nurses immediately and to see to it that no students are enrolled in courses under the nurse training law, which begin after October 15. The end of the war removed the necessity for continuing to start federal training courses for nurses for the armed forces," Mr. Truman said. The White House announcement said the President's action would permit orderly termination of the Cadet Nurse Corps program. It will allow more than 1,100 training schools to adjust their services for peacetime and will enable 30,000 young women enrolled in the Cadet Nurse Corps in current classes to receive federal assistance toward their education.

Extension of Federal Aid to Child Care Centers

Strong support has been given the proposal to extend the Lanham act, with its federal help to child care centers. It has been pointed out that hundreds of thousands of servicemen will not be home for a year or more, and their wives, who must work to support themselves and one or more children, need these centers as much today as before the end of the war. Federal Works Administrator Fleming said he was convinced of the necessity for child care centers in the District of Columbia and in other congested areas. He had ordered the nurseries closed October 31 because "strict interpretation of the law requires it." However, ample funds are on hand to carry the program through the year, he said. Mothers' organizations and newspaper editorials have advocated continuance of the centers.

Medical Legislation

MEDICAL BILLS IN CONGRESS

Message of the President

President Truman transmitted to the Congress, September 6, a message outlining suggested programs to be instituted by the federal government during the postwar period. Among other things he reemphasized the desirability of increased unemployment benefits but cautioned that this recommendation was not to be confused with the broader question of extending, expanding and improving the entire social security program of which unemployment insurance is only a part. He indicated that he would communicate with the Congress at a later date on the need of changes in the social security program. He called attention to the fact that the Congress has been considering legislation with respect to the construction of hospitals and health centers throughout the country and said that the federal government must continue to recognize its obligation to maintain and improve the health of the nation by providing federal grants where necessary for the construction of hospitals and health centers. He devoted a portion of his message to scientific research and urged the early adoption of legislation by the Congress for the establishment of a single federal research agency to promote, among other things, research in the basic and social sciences and in medicine, public health and allied fields. He repeated President Roosevelt's suggestions for an economic bill of rights, which included the right to adequate medical care and the opportunity to achieve and enjoy good health, and indicated that he would from time to time communicate with Congress on "some of the subjects included in this enumeration of economic rights."

Maternal and Child Welfare Act of 1945

Representative Norton, New Jersey, has introduced H. R. 3922, a bill to provide for the general welfare by enabling the several states to make more adequate provision for the health and welfare of mothers and children and for services to crippled children. This is a companion bill to S. 1318, introduced by Senator Pepper and nine other members of the Senate Committee on Education and Labor. The House bill was referred to the House Committee on Labor.

Federal Medical and Nurse Training Schools

Representative Price, Florida, has introduced H. R. 3924, H. R. 3926 and H. R. 3927, proposing, respectively, to provide for the establishment of a United States Naval Medical School, a United States Army Training School for Nurses and a United States Military Medical School. Admission to such schools, it is proposed, will be on the same terms and conditions as admissions to the United States Military Academy or the United

States Naval Academy, as the case may be. On graduation, commissions will be granted as ensigns or second lieutenants, and graduates may be assigned to duty in the Army, the Navy or, in case of nurses, to the Veterans Administration.

Miscellaneous

H. R. 3939, introduced by Representative Stevenson, Wisconsin, proposes an appropriation of $500,000,000 for expenditure under the direction of the Surgeon General of the United States Public Health Service for research with respect to the cause and cure of cancer and poliomyelitis.

Representative Luce, Connecticut, proposes by H. Con. Res. 71 to record the Congress as believing that every effort should be exerted to give employment to the greatest possible number of veterans of World War II who are physically handicapped as the result of their service in the armed forces.

Council on Medical Service and Public Relations

PREPAID MEDICAL CARE NEWS

The Nebraska Surgical Plan

The Nebraska Surgical Plan, approved by the Nebraska State Medical Association, recently made available to many additional Nebraska communities the system of nonprofit prepayment sickness insurance benefits which already has been in operation in Douglas County since Nov. 1, 1944.

Already 45,984 Nebraskans are receiving the benefits of the Blue Cross plan. The surgical plan in operation in Douglas County in conjunction with Blue Cross has more than 2,000 subscribers.

The surgical plan, which offers subscribers surgical, maternity, x-ray, pathologic and anesthesia benefits, will be integrated with the Blue Cross plan established to subscribers' hospital bills within certain limitations.

Surgical plan subscribers and all their dependents are offered surgical, maternity, x-ray, pathologic and anesthesia benefits. The plan also provides for treatment of certain minor surgical cases in the doctor's office, such as fracture of a wrist, minor lacerations or incision of a boil. It does not cover medical service such as house visits in the case of ordinary illness caused by infectious diseases, influenza, pneumonia or other medical afflictions. When sufficient experience has been accumulated, benefits for treatment of medical cases confined within a hospital will be added to the surgical-maternity benefits.

To insure a fair cross section of subscribers, the surgical plan, like Blue Cross, is offered only on a group basis. In rural areas it is proposed to enroll farm groups through project clubs, townships, school districts and such cooperative groups as the Farmers Union.

The New York Trust Company Provides Hospitalization for Employees

The New York Trust Company has adopted plans to meet the expenses in hospitals of illnesses of employees and their family dependents, it has been announced recently by Mr. John E. Bierwirth, president of the company.

Protection will be provided beginning August 1 through the Blue Cross Plan of Associated Hospital Service of New York and the Doctors' Plan of the United Medical Service, Inc. The company will pay all costs.

In a letter to the employees announcing the adoption of the plans, Mr. Bierwirth explained that provision had been made for the payment of hospital bills and for the cost of medical, surgical and obstetric care in hospitals, and that benefits will be available without waiting periods to all salaried employees who have completed six months or more of continuous service.

This is the third insurance measure adopted by the New York Trust Company for its employees. In 1943 the company established a Retirement Annuity Plan, which was followed in 1944 by an Incentive Compensation Plan for the officers and employees.

Bureau of Information

SUMMARY SHEETS FROM SOUTH DAKOTA AND TENNESSEE

Completed county summary sheets have been received from counties in South Dakota through Dr. Roland G. Mayer, secretary, South Dakota State Medical Association, and from Tennessee through Dr. W. M. Hardy, secretary, Tennessee Medical Association.

The accompanying tables give data from selected counties in these states. The column giving the number of persons per telephone is used as one index of the economic status of the area. Many physicians over 65 years of age are carrying on large practices and are doing much to maintain the health of communities. They are not included in computing physician population ratios, however, as the future needs of the communities will be largely dependent on younger physicians.

South Dakota

County [1]	Principal Cities [2]	Population	Physicians Under 65	Persons per Physician	Persons per Telephone [3]
Bennett		2,292	1	2,292	573
Clay		8,357	4	2,089	7
	Vermillion	3,324			
Corson		5,500	..	.....	74
Edmunds		7,147	1	7,147	15
Hyde		2,717	1	2,717	10
Lyman		4,062	1	4,062	11
McPherson		6,890	1	6,890	12
Meade		8,548	1	8,548	12
	Sturgis	3,008			
Union		9,413	3	3,138	6
Ziebach		2,239	1	2,239	23

Tennessee

County [1]	Principal Cities [2]	Population	Physicians Under 65	Persons per Physician	Persons per Telephone [3]
Anderson		36,233	9	4,026	57
	Clinton	2,761			
Bedford		22,041	5	4,408	16
	Shelbyville	6,537			
Claiborne		22,947	6	3,824	93
Cumberland	.....	.....	5	2,978	61
Greene	.....	.....	17	2,070	35
	Greeneville	6,784			
Henderson		16,409	2	8,204	22
	Lexington	2,526			
Marshall		15,613	6	2,602	14
	Lewisburg	3,582			
Scott		14,835	6	2,472	94
Sumner	.....	.....	8	3,706	20
	Gallatin	4,829			
White		14,031	6	2,338	36
	Sparta	2,506			

1. Bureau of Census, estimated population 1943.
2. Bureau of Census, population 1940.
3. Based on 1940 figures, American Telephone and Telegraph Company.

A current knowledge of needs of communities for doctors is essential if adequate help is to be given veteran medical officers in their problems of medical practice. These needs can be indicated on the summary sheets under "Remarks" by the state and county secretaries and are then available to inquiring medical officers. Frequent reports from state and county medical societies about needs of communities for doctors will help maintain current files and will increase the service of the Bureau.

With the information available on a completely filled out summary sheet, it is readily possible for an interested medical officer to make an initial selection of areas in which he might like to practice. Since vacancies are held open in many communities for doctors now in military service, further investigation by direct correspondence with state and county medical societies will always be necessary to insure an accurate report of the needs of individual communities.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

CONNECTICUT

Medical Needs of Veterans.—A regional meeting on the medical needs of veterans was held at the Veterans Administration Facility, Newington, September 13, under the auspices of the Connecticut State Medical Society and the Veterans Administration. Dr. Joseph H. Howard, Bridgeport, president of the state society, presided, and speakers included Major Gen. Paul R. Hawley, M. C., adviser on medical matters, Veterans Administration, and Capt. Howard H. Montgomery (MC), Washington, D. C.

Research Worker Dies of Poliomyelitis.—A "conscientious objector" working on poliomyelitis as a technician in one of the laboratories at Yale University, New Haven, died of the disease, August 26, according to the Associated Press. The technician, Warren G. Dugan, a graduate of engineering of the University of Illinois, Urbana, was one of three conscientious objectors working in the Yale University School of Medicine and was doing experimental work on infantile paralysis. He became ill on August 24 and died in the New Haven Hospital two days later.

ILLINOIS

Hubert Smith Named Professor of Legal Medicine at Illinois.—Dr. Hubert W. Smith, formerly research associate at the medical and law schools of Harvard University, Boston and Cambridge, has been named professor of legal medicine in the University of Illinois Graduate School. Dr. Smith, who until his recent release from service was acting as legal adviser and officer-in-charge of the legal medicine unit in the Bureau of Medicine and Surgery, U. S. Navy, will in his new appointment carry on research and teaching in the graduate school and teach at the college of medicine in Chicago and probably also in the law school. He will maintain his office on the Urbana-Champaign campus but give about half his time to the Chicago campus. He received his law and medical degrees at Harvard, the latter in 1941. His appointment was made under the new "Distinguished Professorship Fund" of the university, administered by the graduate school.

Chicago

Benefit for La Rabida Sanitarium.—A series of paintings known as the Abbott Collection of Marines in Action, by Kerr Eby, had its first Chicago showing at a benefit preview for the La Rabida Sanitarium September 5. The exhibit was at the galleries of the Associated American Artists under the joint sponsorship of the La Rabida Foundation and the U. S. Marine Corps. The collection was made for Abbott Laboratories and presented to the Navy.

Nonsalaried Faculty Members.—Appointment of 549 doctors to the nonsalaried faculty of the University of Illinois College of Medicine has been announced. This is a reduction of 20 from last year. Of the appointees, 184 are on leave for war service. The nonsalaried faculty of medicine are doctors who give a part of their time to clinical instruction at the university. They receive the benefit of experience with cases brought to the university and its hospitals, at the same time giving the patients and the medical students the benefits of their experience. Appointments are in seventeen departments.

Conference on Tuberculosis.—A conference on control of tuberculosis in a metropolitan area, under the sponsorship of the Institute of Medicine of Chicago, will be held November 13-14 at the Palmer House and will cover phases that are of particular importance at this time to clinicians, specialists, lay workers and teachers, who are cordially invited to attend. There will be panel discussions on financing the tuberculosis problem, the problem of the tuberculous war veteran, immunization with the bacillus Calmette-Guérin, and education of medical students and physicians in tuberculosis. Additional information may be obtained from the Institute of Medicine of Chicago, 86 East Randolph Street, Chicago 1.

Meeting of Statewide Public Health Committee.—On August 29 more than 100 representatives of medicine, education, labor, agriculture, business and other interests participated in the annual meeting of the northern section of the executive board of the Illinois Statewide Public Health Committee in Chicago. The object of the meeting was to discuss plans for continued efforts to arouse public support for the establishment of county health departments under the 1943 act, a number of which have already been set up through the committee's activities. Benjamin Wham, Chicago attorney and general chairman of the committee, reported that in the two war years following the passage of the act eight counties have adopted health departments, four by resolution of their county boards and four by referendum, and that a large number of counties have local committees actively at work.

Conrad Sommer Goes to St. Louis.—Dr. Conrad S. Sommer recently resigned as deputy director of the mental hygiene service of the Illinois Department of Public Welfare to develop a psychiatric clinic at the St. Louis County Hospital, Clayton, and to accept an appointment as assistant clinical professor of psychiatry at the Washington University School of Medicine, St. Louis. The project at the St. Louis County Hospital, which opened August 1 and which is in charge of Dr. Sommer, serves children and adults through the range of all mental hygiene disorders including behavior problems, neuroses, psychosomatic disorders and psychoses. The clinic's psychotic patients are sent to the Malcolm A. Bliss Psychopathic Institute, St. Louis City Hospital, where the county clinic staff studies the cases in cooperation with the Bliss staff. Patients requiring longer care are sent to the state hospitals at Farmington and Fulton. An attempt is made wherever possible to avoid commitment through the use of community and clinic mental hygiene technics. Dr. Sommer graduated at the University of Illinois College of Medicine in 1932. He had been superintendent of the state division of mental hospitals in Illinois from 1940 until 1943, when he became director of the mental hygiene service.

Symposium on Medicolegal Problems.—The Institute of Medicine of Chicago and the Chicago Bar Association are cooperating in a symposium on medicolegal problems to be held Tuesday evenings, October 9-November 13, at the Chicago Bar Association, 29 South LaSalle Street. Speakers will include:

The Medical Witness in Court: Expert Testimony, October 9—medical discussion: Dr. Oscar Hawkinson, chairman, committee on legal problems, Chicago Medical Society; legal discussion: Erwin W. Roemer Esq., member of the Chicago Bar and of the firm of Gardner, Carton & Douglas (the Chicago Medical Society collaborating).

Artificial Insemination: Medicolegal Implications, October 16—medical discussion: Dr. Jacob P. Greenhill, professor of gynecology, Cook County Graduate School of Medicine, attending gynecologist, Michael Reese Hospital; legal discussion: James F. Wright Esq., member of Chicago Bar and of the firm of Rawlins & Wright.

The Practice of Pathology and Its Medicolegal Problems, October 23—medical discussion: Dr. Alan R. Moritz, professor of legal medicine, Harvard Medical School, Boston; legal discussion: Abe R. Peterson Esq., member of the Chicago Bar and of the firm of Eckert & Peterson (the Chicago Pathological Society collaborating).

Operations to Produce Sterility: Medicolegal Implications, October 30—medical discussion: Dr. Frederick H. Falls, head of the department of obstetrics and gynecology, University of Illinois College of Medicine; legal discussion: Burke Shartel Esq., professor of law, University of Michigan, Ann Arbor.

Trauma and Tumors in Industrial Medicine, November 6—medical discussion: Dr. Otto Saphir, professor of pathology, University of Illinois College of Medicine, Dr. Hamilton R. Fishback, associate professor of pathology, Northwestern University Medical School; legal discussion: Daniel D. Carmell Esq., member of Chicago Bar.

Scientific Tests in Evidence: Blood Grouping Tests in Disputed Paternity Cases; Chemical Tests for Intoxication, November 13—medical discussion: Dr. Israel Davidsohn, associate professor of pathology, University of Illinois College of Medicine, Clarence W. Muehlberger, Ph.D., toxicologist, Michigan Department of Health, Lansing; legal discussion: Fred E. Inbau Esq., professor of law, Northwestern University Law School.

All lawyers, physicians, students and others interested in medicolegal problems are cordially invited to attend. Early reservations for dinner will be appreciated.

MASSACHUSETTS

Changes in State Health Department.—Dr. Caroline A. Chandler has been appointed supervisor of clinics for crippled children in services for crippled children of the Massachusetts Department of Public Health, Boston. Prior to accepting a commission in the U. S. Public Health Service, Dr. Chandler was with the division of research in child development in the Children's Bureau. Dr. Roy F. Feemster was appointed director of the division of local health administration in the department of health. He will retain this office for the duration, after which he will return to his former position of director of the division of communicable diseases. Dr. Merrill E. Champion, former epidemiologist in the department, is now acting director of the division of communicable diseases. William H. Griffin, D.M.D., has been appointed to the Massachusetts Public Health Council by Governor Maurice J. Tobin. He succeeds Dr. Elmer S. Bagnall, Groveland, whose term of appointment expired in June. A. Laurence Corbman, D.D.S., formerly associate dental surgeon with the Office of Indian

Affairs of the U. S. Department of the Interior in South Dakota, has been appointed public health dental supervisor with the state department of health. He is assisting in a dental caries study authorized by the recent legislature, in which the use of fluorine for reducing caries among schoolchildren is being investigated. Dr. Charlotte Silverman is now with the department of health as epidemiologist in the division of communicable diseases. Prior to her appointment Dr. Silverman was senior assistant surgeon, U. S. Public Health Service Reserve, at the National Institute of Health, Bethesda, Md.

MICHIGAN

Human Problems in Industrial Employment.—"Human Problems in Industrial Employment" will be analyzed and discussed during a course of thirteen consecutive Wednesday evening conferences to be conducted by the Wayne University School of Occupational Health at the Hotel Wardell-Sheraton, Detroit. Topics to be considered in the conference include:

September 19, Problems of Matching the Employee and the Job.
September 26, Problems of Supervisor-Employee Relations in Job Adjustment.
October 3, Human Relations in Industry.
October 10, The Psychologist and Industrial Relations.
October 17, subject not announced.
October 24, The Psychiatrist and Industrial Relations.
October 31, Technics for Measuring and Evaluating Individual Behavior.
November 7, Occupational Fatigue.
November 14, Research Approach to the Study of Human Relations.
November 21, Clinical Interpretation of Behavior in the Measure of Occupational Fitness.
November 28, The Interdependence of Occupational and Nonoccupational Personal and Health Factors in Continued Job Adjustment.
December 5 and 12, subjects not announced.

In a statement to the press Dr. Raymond Hussey, dean of the Wayne University School of Occupational Health, said that the program is offered as a community service. It is designed especially for physicians who are interested in the practice of medicine in its application to industrial health.

MINNESOTA

Operator of "Health Vaportorium" Sentenced.—On August 8 Dehlia C. McMahon, Minneapolis, pleaded guilty to the charge of practicing healing without a basic science certificate and was sentenced to one year in the Minneapolis workhouse. The sentence was suspended on condition that she close her place of business and refrain from attempting to practice healing. The defendant had operated a place known as the "Health Vaportorium," where she claimed to be giving treatments for such conditions as "sinus, colds, bronchitis, neuritis, arthritis, nervousness, poor circulation, constipation and so forth." The treatments, for which the defendant charged from two to five dollars each, consisted of a vaporized oil bath, massage and vitamins.

Courses for Physical Therapy Technicians to End.—The section on physical medicine at the Mayo Clinic, Rochester, will discontinue its regular emergency courses for the training of physical therapy technicians when the present class completes its training July 1, 1946. Attention will be directed then to the provision of graduate and refresher courses for physical therapy technicians who have previously completed a course in an institution approved by the Council on Medical Education and Hospitals of the American Medical Association. It is hoped to inaugurate this program in September 1946. A plan is also entered to replace the emergency courses for military physicians offered under the section on physical medicine throughout the war emergency, with graduate and refresher courses for army and navy medical officers returning from military service who may wish to continue in the field of physical medicine who may have worked in this field while in service.

NEW JERSEY

Personal.—Frederick W. Lorenz, Ph.D., assistant professor of poultry husbandry, University of California College of Agriculture, Davis, Calif., has been appointed to the research staff of the White Laboratories, Inc., Newark; he will be in charge of research in physiology and endocrinology.

Special Society Election.—Dr. Harry J. Perlberg, Jersey City, was elected president of the Radiological Society of New Jersey recently. Other officers include Drs. John L. Olpp, Englewood, vice president; Harry R. Brindle, Asbury Park, secretary, and William H. Seward, Orange, treasurer.

Survey of Hospital and Health Center Facilities.—The New Jersey State Commission on Postwar Economic Welfare is undertaking a statewide survey of hospital and health facilities and services as part of a national survey sponsored by the Commission on Hospital Care, the New York *Times* reported July 22. Emil Frankel, director of research and statistics of the state department of institutions and agencies, will be director of the study, and William H. McDonald, Trenton, of the state department of health, will be assistant director.

NEW YORK

Staff Resigns at Guidance Center.—Plans for the operation of the Rochester Guidance Center, mental hygiene clinic for children, are under the consideration of the board of directors following the mass resignation of the entire clinic staff, which was in charge of Dr. Exie E. Welsch. All resignations are effective October 1, according to the Rochester *Times Union*. Newspapers indicated that criticism from agencies led to the clash between the staff and the board.

Louis Kress Made Director of Malignant Disease Institute.—Dr. Louis C. Kress, since 1919 associated with the State Institute for the Study of Malignant Diseases, Buffalo, has been named director of the institute, effective September 1. Dr. Kress, who graduated at the University of Buffalo School of Medicine in 1918, joined the institute staff in 1919 as voluntary assistant; in 1932 he was appointed assistant director of the newly created state division of cancer control, serving concurrently as chief surgeon of the institute. He has been director of the division since 1939.

New Offices of State Society.—The office of the Medical Society of the State of New York will be located on the seventh floor of the building at 292 Madison Avenue, New York 17. The society now has twice as much floor space as it had on the twenty-first floor of the building, where it has been located for the past five years. The new space is expected to be available soon after the first of the year. The house of delegates of the society will hold a meeting at the Statler Hotel, Buffalo, October 8-9. Plans are now going forward to increase the pages of the state journal in 1946. The following dates have been decided for various district meetings:

First District, October 30, White Plains.
Second District, October 24, U. S. Naval Hospital, St. Albans.
Third District, September 20, Albany.
Fourth District, September 21, Queensbury Hotel, Glens Falls.
Fifth District, September 18, Oneida.
Sixth District, September 26, Country Club, Cortland.
Seventh District, September 27, Clifton Springs Sanitarium and Clinic, Clifton Springs.
Eighth District, October 4, Hotel Statler, Buffalo.

New York City

Contributions of the War Effort to Medicine.—The eighteenth Graduate Fortnight of the New York Academy of Medicine, October 8-19, will be devoted to "Contributions of the War Effort to Medicine." Following the address of Dr. Cornelius P. Rhoads, acting president of the academy, the scientific program will open with the delivery of the Ludwig Kast Lecture by Col. William C. Menninger, M. C., on "Modern Concepts of War Neuroses." The lecture is in memory of Dr. Kast, who proposed the Graduate Fortnight. Other speakers will be:

Dr. Thomas A. C. Rennie, What Can the Practitioner Do in Treating the Neuroses?
Lieut. Col. Roy R. Grinker, M. C., Sedation as a Technic in Psychotherapy.
Col. Howard A. Rusk, M. C., Planned Convalescence.
Dr. David P. Barr, Physiologic and Psychologic Effects of Bed Rest.
Dr. John H. Powers, Cooperstown, N. Y., Evaluation of Early Postoperative Activity.
Dr. George W. Thorn, Boston, The Use of Human Serum Albumin in the Treatment of Edema of Renal and Hepatic Origin.
Dr. Joseph Stokes Jr., Philadelphia, The Plasma Globulins in Prophylaxis and Treatment.
Dr. Dickinson W. Richards Jr., Mechanism of Shock.
Dr. S. Howard Armstrong Jr., Boston, Management of Blood Preservation and Blood Substitutes.
Col. Daniel C. Elkin, M. C., Treatment of Peripheral Arterial Injuries (The Carpenter Lecture).
Dr. Arthur W. Allen, Boston, Thrombosis and Embolism.
Lieut. Comdr. Thomas I. Hoen (MC), Reconstructive Surgery of Nerves.
Dr. Philip D. Wilson, Reconstructive Surgery of the Joints.
Dr. Virginia Kneeland Frantz, New Absorbable Hemostatic Agents.
Dr. Jonathan E. Rhoads, Philadelphia, The Use of Penicillin and Streptomycin in Surgical Infections.
Dr. James A. Shannon, Chemotherapy in Malaria.
Dr. John P. Peters, New Haven, Nutritional Needs in Acute and Chronic Illness.
Dr. Luther Emmett Holt Jr., Reevaluation of the Vitamins.
Dr. Robert L. Levy, The Stimulus of War to Cardiology.
Dr. Harold W. Brown, Filariasis.

The program will include a series of morning panel discussions on psychiatric rehabilitation, physical reconstruction, vascular surgery and ununited fractures. There will be clinics in the afternoon held at various hospitals in the city. Scien-

tific and drug exhibits and motion picture demonstrations and a special display of books illustrating the general subject of the fortnight will be shown as well as a practitioner's book shelf.

NORTH CAROLINA

Personal.—Eden Clark of Duke University, Durham, has been named chairman of the board of governors of the Association of Medical Illustrators (THE JOURNAL, August 4, p. 1040).

Undergraduate Award Given.—Dr. John P. McGovern, Washington, D. C., who graduated at Duke University School of Medicine, Durham, in June, was the first Duke recipient of the Borden Undergraduate Research Award in Medicine. The award was set up with a $500 gift this year by the Borden Company Foundation of New York to stimulate productive research by undergraduate students. Dr. McGovern received the prize for his original investigation on whooping cough.

Radiologic Meeting.—The North Carolina Radiological Society will hold its fall meeting at the Watts Hospital, Durham, October 5-6. Among the speakers on the program will be:

Dr. George J. Baylin, Durham, Effects of X-Ray Therapy in Experimental Virus Pneumonia.
Dr. Gibbons W. Murphy, Asheville, Experiences in the Army of the United States.
Dr. Paul P. McCain, Sanatorium, Boeck's Sarcoid.
Dr. Jasper Lamar Callaway, Durham, Discussion of Cutaneous Manifestations of Sarcoid.
Dr. Robert J. Reeves, Durham, Discussion of Bone Lesions in Sarcoid.
Dr. Vincent W. Archer, Charlottesville, Va., Diagnosis of Bone Lesions in Childhood.
Dr. Hugh F. Hare, Boston, Treatment of Carcinomas of the Larynx.

Changes in Health Officers.—Dr. Alfred Mordecai has been appointed health officer for the newly created health department for Davie, Yadkin and Stokes counties, with headquarters in Winston-Salem. The change in the setup of the health department came about with the consolidation of the city and county units in Forsyth, with Dr. John Roy Hege resigning there to join the state health department at Raleigh. ——Dr. Gilcin F. Meadors Jr. has resigned as health officer of Lenoir County to report to the states relation division of the U. S. Public Health Service, Washington, D. C., effective August 10.——Dr. Hamilton W. Stevens, Jacksonville, director of the Onslow-Pender District Health Department, has resigned, effective September 30, to become director of the Wilson City and County health unit.

OHIO

Health Museum Buys Garfield House.—Trustees of Cleveland Health Museum have approved plans for purchase of the building formerly known as Garfield House, 8917 Euclid Avenue, occupied by the Cleveland Speech and Hearing Center. The new property will be used primarily to accommodate the Dickinson Collection of sculptural models of human reproduction recently acquired by the museum (THE JOURNAL, July 21, p. 893). It will also be used to augment space for other existing exhibits and for new exhibits planned to cover mental hygiene, industrial health and a new series pointing the way toward a healthier and happier old age. Additional space will be available for the health education laboratories, particularly the new plastics department, and extend the facilities for teaching in the postgraduate field of health education.

Western Reserve Plans New Psychiatric Program.—Approval has been given to the establishment of a psychiatric clinic at the University Hospitals, Western Reserve University, Cleveland, to provide treatment for civilians for a nominal fee and free treatment for servicemen and their families who are referred there by the American Red Cross. Establishment of the clinic is made possible through the Greater Cleveland Red Cross chapter, which has procured financial support for the part of the program applying to servicemen and their families. It is anticipated that some support for the civilian part of the program will be sought later through a public campaign. A new professorship of psychiatry has also been set up, the first incumbent to be Major Douglas D. Bond, head of psychiatry, U. S. Air Surgeon's Office, Washington, D. C., who will take over his new activities as soon as he is released from service. Major Bond in this position will serve as director of the clinic, which will be staffed by five psychiatrists, one psychologist and psychiatric social workers and nurses. For the present it will be housed in Lakeside Hospital. Eventually a new psychiatric building to cost about $450,000 will be constructed to adjoin the other hospitals of the University Hospital group on the Western Reserve campus. The only member of Major Bond's staff thus far announced is Lieut. Col. Edward O'Neil Harper, who was with the Lakeside unit in the Pacific theater for three years. The clinic will treat the more mild disorders, such as maladjustments and emotional difficulties. At all times in its planning and actual operations it is expected that representatives of the Red Cross will sit on the advisory committee and that Red Cross officials will be kept informed concerning personnel and operation in order that this cooperative project may continue efficiently and with the greatest benefit to those whom it seeks to serve. The new clinic is said to represent a pioneer project as far as the Red Cross is concerned.

PENNSYLVANIA

Philadelphia

George Meeker Dies.—George H. Meeker, Ph.D., from 1918 to 1941 dean of the Graduate School of Medicine of the University of Pennsylvania, died at Hunt's Lake, N. J., September 4, aged 74. Dr. Meeker received his Ph.D., at Lafayette College, Easton, Pa., in 1898 and his Pharm.D. at the Medico-Chirurgical College in Philadelphia in 1906. He had served as professor of chemistry at the University of Pennsylvania School of Medicine from 1916 to 1940. He aided in the establishment and became the first dean of the Graduate School; he also founded the department of pharmaceutical chemistry at the university in 1907. He was director of the Graduate Hospital from 1924 to 1928 and was prominently known as an expert on toxicology.

SOUTH CAROLINA

Postgraduate Assembly.—The Piedmont Post Graduate Assembly and the Fourth District Medical Society are cooperating in the following program at the Anderson County Hospital, Anderson, September 18:

Dr. A. Benson Cannon, New York, Management of Some Common Skin Diseases and Presentation of Clinical Cases.
Col. Charles T. Young, M. C., The Army's Appraisal and Management of Battle Fatigue.
Dr. James Elliott Scarborough Jr., Atlanta, Ga., Management of Melanoma.
Dr. Oscar L. Miller, Charlotte, N. C., Orthopedic Problems Which the General Surgeon and Family Doctor Should Handle.

At the banquet session in the Calhoun Hotel, with Dr. Joseph Decherd Guess, Greenville, as toastmaster, the speakers will be Dr. Scarborough on "Some General Remarks on Cancer" and Dr. Miller, who will give a biographic sketch of "Dr. Oliver M. Doyle."

UTAH

Program in Child Psychiatry.—The Rockefeller Foundation has given funds to the University of Utah School of Medicine, Salt Lake City, to establish a program in child psychiatry. Dr. Reynold A. Jensen, associate professor of neuropsychiatry and pediatrics, University of Minnesota Medical School, Minneapolis, in charge of the child psychiatric clinic, University Hospitals, Minneapolis, is in Salt Lake City on the grant for a period of two months to create interest in the establishment of a child psychiatric program there.

Anonymous Donation Sets Up Lectureship.—An anonymous donor has given funds to the Utah Medical Foundation to present a series of lectures on current problems in pediatrics, the first of which was recently given by Dr. Joseph Stokes Jr., William H. Bennett professor of pediatrics, University of Pennsylvania School of Medicine, Philadelphia. Dr. Stokes's subjects were "The Study of Hepatitis" and "Some Uses of Gamma Globulin in Hepatitis and Other Infectious Diseases." The second speaker in the series was Dr. Alexander Ashley Weech, B. K. Rachford professor of pediatrics, University of Cincinnati College of Medicine, who spoke on "Physiologic Consequences of Inadequate Dietary Protein" and "The Role of Cortical Development in Determining the Behavior of Infants." The Utah Medical Foundation was recently established at the University of Utah School of Medicine with a gift by the first graduating class of the four year school (THE JOURNAL, August 25, p. 1240).

WEST VIRGINIA

Personal.—Dr. Paul H. Harmon, chief of the orthopedic department of the Guthrie Clinic at Robert Packer Hospital, Sayre, Pa., has been appointed medical director of the Morris Memorial Hospital, Milton, effective August 1.——Mrs. Ruth J. Franz, Milwaukee, has been appointed director of the bureau of public health education in the state health department, succeeding the late Dorothea Campbell, Charleston. Mrs. Franz, who is a graduate of the University of Michigan and who has completed a course in public health education at the School of Public Health at Ann Arbor, has recently been doing field health work for the Michigan Department of Health.

Membership of Advisory Legislative Committee Completed.—The membership of the advisory committee to the legislative interim committee studying public health problems (THE JOURNAL, May 5, p. 44) was recently completed, when Governor Clarence W. Meadows named business and professional men and women as members of the group. Eight physicians were appointed by the governor several weeks ago as members of the advisory committee (THE JOURNAL, June 23, p. 606). Dr. William R. Laird, Montgomery, has been named as the governor's personal representative in the field of medicine. Henderson Peebles, Charleston, will represent business, and Mrs. D. W. Stubblefield, Charleston, the public at large. Labor representatives include John B. Easton, Charleston, C. I. O.; Volney Andrews, Charleston, A. F. of L., and George J. Titler, Beckley, United Mine Workers of America. H. B. Crow, Weirton, is the industrial representative and John J. Foster, Holden, was named for mines and mining. O. W. Van Petten, Charleston, will represent the oil and gas industry.

PUERTO RICO

Hospital Construction.—The building of three hospitals is under consideration by the committee on design of public works of Puerto Rico, one in Ponce, one in Mayaguez and one in Guayama. The Ponce Charity Hospital is to be an eight story structure to cost about three million dollars and to have a capacity of about 600 beds. The Mayaguez institution is to have 500 beds and cost about two million dollars, while the Guayama Hospital is to cost about one million and have 300 beds.

GENERAL

Your Doctor Speaks.—Every physician in the United States will receive during the coming months copies of a new publication entitled "Your Doctor Speaks." The book, issued by the Upjohn Company, manufacturers of pharmaceuticals, contains a series of health messages which are a part of the health campaign being run monthly in various popular periodicals.

Industrial Safety Tomorrow.—The National Safety Council has released a sixteen page pamphlet entitled "Industrial Safety Tomorrow," outlining a specific program to help industry meet an impending increased accident toll. Preparation of the pamphlet was handled by a special committee on postwar industrial safety and represents the contributions of thirty-eight national organizations interested in industrial safety.

Expanded Facilities Approved to Produce Streptomycin.—On August 1 the War Production Board approval of priorities for plant and equipment materials was received by Merck & Company, Rahway, N. J., to permit the construction of special facilities for the production of streptomycin. The production unit will be erected at the company's Stonewall Plant at Elkton, Va., and a unit for drying and packaging the drug at the company's main plant at Rahway. Total cost will approximate $3,500,000. The new plant is expected to go into production early in 1946.

Pan American Congress of Otolaryngology Postponed.—Because the cancellation of the 1945 annual meeting of the American Academy of Ophthalmology and Otolaryngology was necessary, the Pan American Congress of Otolaryngology and Broncho-Esophagology has also been postponed to the following year. The academy committee is preparing meanwhile a directory of otorhinolaryngologists in the Americas, which will include not only a list of the names and addresses of the qualified specialists in the various countries of North, Central and South America but also a list of the societies of otorhinolaryngology, with their present officers; the journals of otorhinolaryngology and their editors-in-chief, and the faculties of medicine which have chairs of otorhinolaryngology, with the name of the present incumbent.

Pan American Congress of Ophthalmology.—The official meeting place of the second Pan American Congress of Ophthalmology, which will take place in Montevideo, Uruguay, November 26-December 1, is the Municipal Hotel "Miramar" on Carrasco Beach. Reservations should be made before October 1 through Dr. Conrad Berens, 301 East 14th Street, New York 3. Any one who wishes to stay in some other hotel should make reservation requests before October 1 to the treasurer of the congress, Dr. Julio A. Sicardi, Agrupacion Universitaria, Ave. Agracida 1464, P. 13, Montevideo. The registration fee for members of the congress is $11 U. S. money ($20 Uruguayan) and for others in the party who wish to be included in the social events $5.50 U. S. money, per person. These fees may also be paid in advance to Dr. Berens. Because of travel conditions, it was not possible to make arrangement for those attending the congress from the United States to go in a group. The Pan American Airways and the American Express Company will cooperate to do everything possible to work out transportation plans to meet individual requirements. Dr. Harry S. Gradle, Chicago, is president of the congress.

"The Constant Invader" Theme of New Radio Series.—The first major nationwide effort by tuberculosis associations to use radio as a channel for health education will be made this fall, when "The Constant Invader," a series of thirteen recorded dramatic shows, goes on the air from approximately 250 stations throughout the country. The series, produced by the National Tuberculosis Association for affiliated associations, dramatize the ways and means of preventing and controlling tuberculosis. Dr. Archibald J. Cronin, author, is the narrator of the series, Hu Chain, New York, the writer producer and Ben Ludlow the composer conductor. The thirteen dramatic shows portray consecutively the advances in medicine and surgery in the treatment of tuberculosis, the role of the family doctor in the tuberculosis campaign, the ways in which community agencies work together toward the solution of the tuberculosis problem, the work of the public health nurse in a rural community, the necessity of tuberculin testing in schools, the "hows" of an industrial x-ray survey, the necessity of examining family contacts, modern sanatorium care, a typical college health program, tuberculosis as a problem among old people, the value of rehabilitation, the "hows" and results of health education, and medical research.

Prevalence of Poliomyelitis.—Reports of cases of poliomyelitis for the week ended September 1 have been received from the division of public health methods, U. S. Public Health Service, as follows:

Division and State	Poliomyelitis Week Ended 9/1, 1945	Poliomyelitis Week Ended 9/2, 1944
New England States:		
Maine	3	1
New Hampshire	3	11
Vermont	5	7
Massachusetts	32	35
Rhode Island	0	1
Connecticut	20	20
Middle Atlantic States:		
New York	138	666
New Jersey	96	67
Pennsylvania	61	162
East North Central States:		
Ohio	33	105
Indiana	22	27
Illinois	94	37
Michigan	13	120
Wisconsin	15	32
West North Central States:		
Minnesota	9	40
Iowa	31	7
Missouri	29	11
North Dakota	0	4
South Dakota	4	0
Nebraska	9	7
Kansas	15	8
South Atlantic States:		
Delaware	4	4
Maryland	3	47
Dist. of Columbia	8	22
Virginia	32	65
West Virginia	1	14
North Carolina	10	41
South Carolina	12	4
Georgia	6	8
Florida	4	2
East South Central States:		
Kentucky	2	34
Tennessee	23	5
Alabama	2	2
Mississippi	3	7
West South Central States:		
Arkansas	4	3
Louisiana	7	1
Oklahoma	16	2
Texas	33	8
Mountain States:		
Montana	0	
Idaho	3	1
Wyoming	2	
Colorado	15	5
New Mexico	0	1
Arizona	1	1
Utah	34	2
Nevada	0	2
Pacific States:		
Washington	22	12
Oregon	5	11
California	33	10
Total	917	1,682
First 35 weeks:		
1945 and 1944	6,126	9,474
Median, 1940-1944	4,026	

The seasonal peak of poliomyelitis this year for the country as a whole has probably been reached, although a few areas, especially in the Northern states, may report some increased incidence during the next few weeks. The largest weekly number of reported cases, 931, was for the week ended August 25, as compared with a peak of 1,682 cases for the week ended Sept. 2, 1944. If cases were recorded by date of onset rather than by date of report to the local health officers, the peak of incidence would probably be a week or ten days earlier.

CORRECTION

The Therapeutic Uses of Radioactive Phosphorus.—In the editorial with this title in THE JOURNAL, July 28, page 954, appears a statement to the effect that complications such as leukemia may be produced when this form of therapy is employed in the treatment of polycythemia vera. The word used should have been leukopenia. Complications such as leukopenia, thrombocytopenia or anemia not infrequently may be observed in patients with polycythemia vera if the dosages of radioactive phosphorus administered are large.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Aug. 18, 1945.

The Teaching and Practice of Chemical Pathology

Because of the present unsatisfactory position of chemical pathology, a committee of the chemical pathologists of the London teaching hospitals has prepared a memorandum on the subject. The members agree with the recommendation in the Goodenough report that chemical pathology should form a separate department and be under the direction of a professor, reader or senior lecturer. To this they would add that the chemical pathologist should be a full member of the medical committee of his hospital. Undergraduate teaching in chemical pathology should be given in the form of a short introductory course at the beginning of the clinical period, with other lectures over the remaining clinical years. The committee differs from the Goodenough proposal which allots routine chemical work to the clinical pathologist, because the chemical pathologist would be largely cut off from the principal source of his inspiration, and his teaching of the basic principles and routine methods would tend to lose contact with current practice. If, for example, no routine blood urea estimations were performed in his department, both the technic and the interpretation of this test would eventually become remote from his personal experience. The standard of chemical work would become lower and a retrograde step would be taken against the tendency to specialization in pathology, which is inevitable. In a hospital of 1,000 beds the routine work in hematology and bacteriology will be so much that the addition of routine chemical tests would be an excessive burden. A closer liaison between the preclinical biochemical and the chemical pathology departments in the medical schools is advised.

The following curriculum, based on a total of twenty-four hours' instruction during the clinical period, is recommended in the report: 1. An introductory course of six hourly periods in the first clinical year, dealing with general principles and including instruction on collection of specimens and urine testing. 2. A general course of eighteen hourly periods during the second and third clinical years, covering the whole subject of the application of chemical methods to clinical problems. 3. A limited number of lectures on special aspects and recent advances during the preregistration year.

Proposed Formation of a Group of Dermatologists Within the British Medical Association

A number of members of the British Medical Association who are dermatologists have petitioned the association for the formation within it of a group of dermatologists. They are engaged in a specialized branch of which the importance is becoming increasingly recognized, but the number in one division of the association is too small to put forward the medico-political problems of the specialty adequately. They therefore hold that the formation of a group of those whose work is exclusively dermatologic would be an advantage both to the group and to the association.

British Medical Association Passes the 50,000 Mark

The British Medical Association has passed the mark of 50,000 members for the first time. On Sept. 2, 1939 the number was 39,121; in 1942, 41,239, and in July 1945, 50,032. The great increase in the last three years seems to have been largely due to the Beveridge scheme for a national health service, which threatened to convert the doctors into state officials. The *British Medical Journal* looks back with gratitude to its founder, Dr. Charles Hastings, who with his colleagues propounded the objects of the association, which have stood the test of time. Beginning in 1832 with the small group of 50, the membership had grown to 500 in 1836, to 1,010 in 1839, to 5,400 in 1873, to 10,050 in 1883, to 16,000 in 1895, to 20,993 in 1906 and to 30,524 in 1925. The objects of the association, as laid down by its founder, were the advance of medical science and the maintenance of the honor of the profession by promoting voluntary intercourse and free communication of its members.

MOSCOW

(From a Special Correspondent)

Aug. 21, 1945.

The Moscow Medical Institute

Tsarist Russia's thirteen faculties of medicine and 1,800 students have been increased under the Soviet rule to seventy-two medical institutes with a student body of 115,000. Russia's 20,000 doctors in 1913 have now grown to 130,000. Still the number of doctors is not adequate to meet the nation's needs and to staff its expanding network of medical institutes. These graduate as many as 20,000 doctors a year. Following is a description of the type of work performed by one of these schools. The Moscow Medical Institute, of which Andrei Likhachev is director, is celebrating its 180th anniversary this year. A number of Russian scientists who have added brilliant pages to medical history received their training here. Among these may be mentioned the surgeon Nikolai Pirogov and the internist Sergei Botkin. Ivan Sechenov, author of "Brain Reflexes," was one of its teachers. The institute has made valuable contributions in every field of theoretical and practical medicine. The student body today numbers 4,000. The first two years are devoted to the study of anatomy, physiology, histology, biology and biologic chemistry. Beginning with the third year, students are introduced to clinical work. After receiving their general training they specialize in hospitals and clinics in accordance with their inclinations and abilities.

On the teaching staff are men of the type of Nikolai Burdenko, chief surgeon of the Red army; the pathologist Alexey Abrikosov, who has trained an army of pathologists in the course of his thirty-five years' work at the institute, and Boris Zbarsky, who embalmed the body of Lenin and is now teaching biochemistry. All these men have had the highest civilian award, Hero of Socialist Labor, conferred on them. The staff numbers 70 professors, 100 docents and over 250 instructors. Eleven are members of the Medical Academy of Sciences.

The course of study was increased this year from five to six years. There are no tuition fees; 95 per cent of the students receive government stipends. Sixteen of the best students receive the Stalin scholarship. Over 30 per cent live in institute dormitories. In addition to their regular studies students may attend thirty circles of study in various specialized scientific fields. Five hundred students working in these circles are given opportunity to engage in independent research work.

Very popular is our "Free Day" club, which is conducted by the students and teachers and which arranges concerts, lectures by poets and novelists, and debates.

Students who attain a high average and display ability for research and teaching are given an opportunity to continue their work at the institute in a three year postgraduate course, during which they work in laboratories and clinics under the guidance of professors and write their theses for the degree of candidate of science. Throughout their postgraduate period students receive government stipends large enough to enable them to devote themselves entirely to their work.

The institute has trained 34,000 doctors in its one hundred and eighty years of existence. During the war, Academician Burdenko set up an experimental station in the institute to test new drugs and methods of treatment of wounds and of chemical and thermal burns.

The Chair of Food Hygiene developed recipes for so-called supplements, which increase the assimilability and nutritive value of various food concentrates. The Chair of Communal Hygiene has developed methods of simplifying chlorination of the water supply for army field units.

The institute graduated 3,300 doctors during the war. In their leisure time students work with enthusiasm in hospitals and take an active part in hygienic inspection of the cities. Many of our students have won government medals and orders. The institute was awarded the Order of Lenin in 1940, on the occasion of its 175th anniversary, in recognition of the services its teaching staff has rendered in training medical men and in advancing medical science.

BOLIVIA

(From Our Regular Correspondent)

La Paz, Aug. 14, 1945.

Pharmacies and Drug Market in Bolivia

For the needs of the approximately three million inhabitants of Bolivia there is a total of seventy-two registered drugstores, fifty-eight of which are located in the district capitals and only fourteen in rural areas, where the doctors have to do their own dispensing of drugs. Every drugstore must have a registered pharmacist in charge, strict supervision being exercised in this respect by the National Health Department.

Most of the drugs are imported but there are also a few national manufacturers. The Public Health Department operates a bacteriologic laboratory, producing appreciable quantities of good vaccines against smallpox, whooping cough, typhoid and plague for free distribution throughout the country. The Army Health Service operates drugstores and laboratories of its own. Large quantities of quinine sulfate and totaquine for home use and for export are produced by a government owned plant. There are some forty wholesale stores which are importers of remedies from abroad.

Up to the outbreak of the war German manufacturers such as Bayer, Schering and Knoll were firmly established on the Bolivian market and had practically no competitors. In 1939 most of them started production in their laboratories in Argentina, Brazil and Chile, but they had soon to curtail sales, as they ran short of raw materials from Germany. In 1942 American manufacturers, who had not been interested in this market before, started sending their drugs here; because of their quality, low prices and neat appearance they were immediately accepted by physicians and public alike. Today most of the larger American manufacturers as well as Brazilian, Argentine and Chilean producers are selling regularly their proprietary articles, especially vitamins, to a public which has become lately quite "vitamin conscious."

There is unfortunately a lack of certain sanitary goods such as surgical gloves and instruments.

In many a remote village, which had never known a doctor or drugstore, there practice medicine-men or witch doctors. The profession is usually passed on from father to son. Carrying his "drugstore" in a bag, this "doctor" comes to the sick man's house, bringing leaves, roots, bulbs, seeds and barks. Some of these remedies are quite efficient. It is noteworthy that it was these practitioners who, according to records, were first to use cinchona bark in the treatment of malaria. Many another drug from their "pharmacopeia" has later been officially accepted by the modern pharmacologists all over the world—to mention just one, the leaves of Erythroxylon coca, the "Divine plant of the Incas."

The medicine-man's reputation is rapidly vanishing now that some physicians are starting to work in the rural areas. However, to get the public there to trust him, the recently arrived physician has to prove first that his modern science and drugs are more efficient than the medicine-man's cures.

BELGIUM

(From a Special Correspondent)

Aug. 6, 1945.

Royal Academy of Medicine

The Royal Academy held its first public session since the liberation of Belgium on February 24. The president, Professor d'Hollander, made an address on the occasion of the liberation of the territory from enemy occupation. Professor Bruynoghe, secretary, read a moving obituary notice recalling the great merits of Professor Delrez as teacher, surgeon, scientist and academician. He emphasized his patriotic sacrifices during the war of 1914-1918 and during the present war and stressed his important contributions to the surgical and scientific activities of the Ocean Ambulance.

The following subjects came up for discussion: low tension in electrocardiography, presented by F. Dauwe; the surgical treatment of essential hypertension, by Jean Govaerts, and the anti-Rh factor and erythroblastosis, by R. Bruynoghe, J. Hoet, De Somer and Vanden Broecke. In a subsequent session Dr. Lauwers read a paper on the intracarotid injections of procaine and other substances in the treatment of epilepsy.

Social Insurance

A struggle is in progress between the government and the medical profession. In effect, the proposed law of social insurance involves the loss of almost all of free practice. In a declaration Dr. Glorieux, president of the Belgian Medical Federation, said "At present there are in Belgium 2,600,000 persons under social insurance. If the draft of the law is adopted, it will mean that 96.5 per cent of the population is destined to become so. This condition will lead inescapably to state medicine. This must not happen. Suppress your motives of discord." France is undergoing a like experience and the disorganization of the medical profession has permitted the adoption of this law. The Belgian Medical Federation is organizing to resist this plan, which would transform the doctor into a functionary of the state.

Acetylcholine and Paroxysmal Tachycardia

The Belgian Society of Cardiology heard a communication by Segers, J. Lequime and H. Denolin on the arrest of crises of paroxysmal tachycardia by the intravenous injection of acetylcholine. The acetylcholine was administered intravenously, the dose varying between 0.01 and 0.10 Gm. dissolved in a 5 per cent solution. The authors were able to arrest with this method sixty-five attacks of tachycardia in 8 different subjects. There were no failures. The arrest of the attack was always prompt, less than thirty seconds after the termination of the injection.

Marriages

Clarence Ray Leininger Jr., Trenton, Mo., to Miss LoDonna Watson of Rexburg, Idaho, in Chicago June 13.

Robert Alexander Pringle, Charleston, S. C., to Miss Barbara Bernice Baldock of Knoxville, Tenn., recently.

Walter Cleveland Fitzgerald, Crewe, Va., to Miss Martha Ann BonDurant of Princeton, W. Va., July 1.

John William Murphy Jr., Kirkwood, Mo., to Miss Elizabeth Anne White of Norfolk, Va., in June.

John Emory Holler, Columbia, S. C., to Miss Edith Wilhelmina Stuckey of Bishopville, June 29.

Richard Demme Bauer to Miss Lourainia Vrooman, both of Philadelphia, June 9.

Miguel Drobinsky, Estelline, S. D., to Miss Lillian Starr of Chicago, June 23.

Milton Plafker, New York, to Miss Elaine Kastil of Chicago, June 17.

Deaths

Edward Blanchard Hodge ⊕ Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1899; born in Burlington, N. J., Aug. 21, 1875; at one time associate professor of surgery at the Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania; member of the founders group of the American Board of Surgery; member of the American Surgical Association; vice president of the College of Physicians of Philadelphia; served in France during World War I; formerly on the staffs of the Presbyterian, Germantown, Children's and University of Pennsylvania hospitals, in addition to serving as a member of the board of Children's Hospital; served on the staff of Chester County Hospital in West Chester; a trustee of Princeton University, Princeton Theological Seminary and Lincoln University, Oxford, Pa.; member of the board of the Northern Trust Company; member of the board of the Children's Seashore House, Atlantic City; a director of the Southeastern chapter of the American Red Cross; died June 19, aged 69, of myocardial infarction.

Josef Benediktus Nylin ⊕ Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1910; born in Sweden in 1874; served as assistant professor of physical therapy at the Woman's Medical College of Pennsylvania; at one time on the faculty of his alma mater and the Graduate School of Medicine of the University of Pennsylvania; member of the American Congress of Physical Therapy, the International Society of Medical Hydrology, London, England, Pennsylvania Physical Therapy Association, Pathological Society of Philadelphia and the American Swedish Historical Museum, of which he had been a trustee; chief of the department of physical therapy at the Hospital of the University of Pennsylvania; consultant in physical therapy at the Shriners' Hospital for Crippled Children; author of a chapter on "Hydrotherapy" in volume III of the Principles and Practice of Physical Therapy; died June 23, aged 71.

Marshall William McDuffie, New York; New York Homeopathic Medical College and Hospital, New York, 1904; born in Henderson, N. C., April 18, 1882; member of the Academy of Pathological Science, New York Academy of Sciences, American Association for the Advancement of Science and the American Institute of Homeopathy; president of the New York Homeopathic County Medical Society, 1926-1927; formerly assistant professor of gynecology at his alma mater; served as attending surgeon and chairman of advisory board and executive committee of the Park West Hospital; for many years on the staffs of the Metropolitan Hospital, Flower and Fifth Avenue Hospitals and St. Gregory's Hospital; died July 23, aged 63, of heart disease.

Charles Eaton Phillips ⊕ Los Angeles; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1903; born in Millington, Ill., Feb. 3, 1877; fellow of the American College of Surgeons; founder of the Los Angeles Surgical Society; for eight years surgeon in Panama when the canal was built; served in the medical corps of the U. S. Army with the rank of major during World War I; lecturer and instructor to medical conference groups at military posts during World War II; senior surgeon at the Los Angeles County Hospital for twenty-four years; visiting surgeon, Hospital of the Good Samaritan, Cedars of Lebanon Hospital and Presbyterian Hospital-Olmsted Memorial; died June 14, aged 68.

Edward M. Amos, Indianapolis; Central College Physicians and Surgeons, Indianapolis, 1891; born in Kirkland, Ind., Feb. 14, 1866; member of the American Medical Association; honorary member of the Indiana State Medical Association; served as president of the Indiana Tuberculosis Association and of the Marion County Tuberculosis Association; member of the staff and formerly directed the tuberculosis clinic at the City Hospital; member of the staff and a trustee of the Sunnyside Sanatorium; on the staffs of St. Vincent's Hospital and the Methodist Hospital, where he died July 19, aged 79, of coronary occlusion.

Donald Adelbert Bartley ⊕ Indianapolis; Indiana University School of Medicine, Indianapolis, 1914; specialist certified by the American Board of Ophthalmology; associate professor of ophthalmology at his alma mater; member of the American Academy of Ophthalmology and Otolaryngology; past president of the Indianapolis Ophthalmological and Otolaryngological Society; served in the medical corps of the Royal Army during World War I; on the staffs of the City Hospital, St. Vincent Hospital and the Methodist Hospital, where he died June 16, aged 58, of cardiac failure.

Leslie Shellabarger Brookhart ⊕ Cleveland; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1905; veteran of the Spanish-American War and World War I; member of the Association of Military Surgeons of the United States; a charter member of the Cleveland Health Museum for many years; industrial physician and surgeon for the American Steel and Wire Company; staff member of St. Alexis and Woman's hospitals; for many years on the staff of St. Luke's Hospital, where he died June 24, aged 64.

Charles F. Anck, Philadelphia; Medico-Chirurgical College of Philadelphia, 1891; died April 2, aged 72, of intestinal obstruction, ruptured diverticulum of the sigmoid colon and peritonitis.

Hyman Bernstein ⊕ Pittsburgh; Georgetown University School of Medicine, Washington, D. C., 1904; served on the staffs of the Montefiore and Passavant hospitals; died June 16, aged 68, of coronary disease.

Louis Bernstein, New York; University and Bellevue Hospital Medical College, New York, 1904; died April 24, aged 66.

Joseph Blickensderfer, Lebanon, Mo.; Omaha Medical College, 1887; served as city and county health officer while in New Philadelphia, Ohio; died in the Louise G. Wallace Hospital May 26, aged 82, of myocarditis.

Donald Hunter Clark, Redlands, Calif.; University of Texas School of Medicine, Galveston, 1899; died in the Community Hospital April 12, aged 69.

Angus Bertram Cowan ⊕ Fresno, Calif.; Cooper Medical College, San Francisco, 1893; member of the American Academy of Pediatrics; specialist certified by the American Board of Pediatrics, Inc.; on the staffs of Burnett Sanitarium, General Hospital of Fresno County and St. Agnes Hospital, where he died April 20, aged 74, of congestive heart disease and coronary sclerosis.

Charles John Drueck ⊕ Chicago; Northwestern University Medical School, Chicago, 1896; for many years associate professor of rectal diseases at the Post-Graduate Hospital and Medical School; at one time professor of physiology at the Illinois School of Dentistry; served on the staffs of the Chicago Memorial and Illinois Masonic hospitals; author of "Fistula of the Anus and Rectum"; died in St. Luke's Hospital June 30, aged 72, of peritonitis following an operation for carcinoma of the stomach.

Edwin Delta Ebright ⊕ Wichita, Kan.; Kansas City (Mo.) Medical College, 1896; past president of the Kansas Medical Society and Sedgwick County Medical Society; fellow of the American College of Surgeons; member of the House of Delegates of the American Medical Association in 1926; served during World War I; on the staff of the Wesley Hospital; on the staff of the Wichita Hospital, where he was orthopedist in charge of Kansas Crippled Children Commission work and where he died May 13, aged 71, of carcinoma of the liver.

Harry M. W. Edmonds, Berkeley, Calif.; the Hahnemann Medical College and Hospital, Chicago, 1892; died April 4, aged 82.

Clarence Frederick Fowler ⊕ Galveston, Texas; University of Texas School of Medicine, Galveston, 1914; on the staff of St. Mary's Infirmary; died June 30, aged 56, of coronary occlusion.

James C. Higgins, Philadelphia; Medico-Chirurgical College of Philadelphia, 1904; died in the Philadelphia General Hospital April 10, aged 69, of arteriosclerotic heart disease and auricular fibrillation.

Francis Bennett Hitchcock, Lewisburg, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1925; member of the American Medical Association; served on the staffs of the George F. Geisinger Memorial Hospital in Danville and the Evangelical Hospital; county medical director; vice president of the school board; died in Lake Worth, Fla., June 24, aged 56, of coronary thrombosis.

Leon Kimball Leigh, Chicago; National Medical University, Chicago, 1898; died June 13, aged 74, of coronary thrombosis and nephritis.

Everett Newton Lipe ⊕ Fairfax, Okla.; Memphis (Tenn.) Hospital Medical College, 1902; served during World War I; died in St. Mary's Hospital, Rochester, Minn., June 1, aged 66, of thrombosis of the middle cerebral artery.

Lionel Hartsfield Love, Pacific Grove, Calif.; Columbia University College of Physicians and Surgeons, New York, 1898; died April 21, aged 73.

Victor Mahrer, Holland Patent, N. Y.; Medizinische Fakultät der Universität Wien, Vienna, Austria, 1906; died in the Faxton Hospital, Utica, April 23, aged 64.

Jacob Manting ✠ Detroit; University of Michigan Medical School, Ann Arbor, 1920; fellow of the American College of Surgeons; member of the surgical staffs of the Harper and Delray hospitals; died in Bloomfield Hills, Mich., June 14, aged 50, of heart disease.

Benjamin Meredith McIntire, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1911; member of the American Medical Association; served overseas during World War I; died May 27, aged 61.

Domenico Merendino, New Orleans; Regia Università degli Studi di Palermo. Facoltà di Medicina e Chirurgia, Italy, 1900; died in the Hotel Dieu May 6, aged 72, of cerebral hemorrhage and arteriosclerotic heart disease.

John W. Moffatt, Marietta, Ohio; Starling Medical College Columbus, 1891; died June 8, aged 79, of heart disease.

Horace Cary Morrow, Austin, Texas; Pulte Medical College, Homeopathic, Cincinnati, 1878; served as a member and as president of the Texas Board of Medical Examiners; died in Dallas June 26, aged 91, of myocardial degeneration.

Joseph Porter Myers, Edinburg, Ind.; Louisville (Ky.) Medical College, 1898; died June 10, aged 70, of coronary occlusion.

Henry Newton Nipple, Selinsgrove, Pa.; Jefferson Medical College of Philadelphia, 1898; died in the Community Hospital, Sunbury, April 19, aged 73, of myocarditis and bronchial asthma.

Cyrus W. Noble, Toledo, Ohio; Eclectic Medical Institute, Cincinnati, 1897; author of two books of verse entitled "Memories" and "Word Pictures"; died May 29, aged 71.

John W. Pierce, Suffolk, Va.; Howard University College of Medicine, Washington, D. C., 1910; died in the Lakeview Hospital May 28, aged 65, of heart disease.

Benjamin Franklin Steely, Louisville, Ill.; Hospital College of Medicine, Louisville, Ky., 1907; member of the American Medical Association; died in St. Anthony's Hospital, Effingham, May 18, aged 64, of heart disease.

William Paul Stetson, New Haven, Conn.; University of Vermont College of Medicine, Burlington, 1938; member of the American Medical Association; instructor of physical hygiene at the Arnold College; on the staff of the Grace Hospital, where he served an internship; flight surgeon for civilian pilots; member of the health committee of the New Hampshire Junior Chamber of Commerce; died June 21, aged 32, of seminoma of the right testicle with metastases.

LIEUT. ROBERT S. HURLBUT (MC), U.S.N.R., 1912-1945

LIEUT. HELMUT WILLIAM FESCA M. C., A. U. S., 1917-1944

LIEUT. BURTON ADAM HALL, M. C., A. U. S., 1912-1944

Fred Porter Nevius ✠ Oakland, Calif.; Michigan College of Medicine and Surgery, Detroit, 1906; served during World War I; for many years city physician of Antioch; died June 14, aged 62.

Emma Barker Steyner, Williamson, N. Y.; the Hahnemann Medical College and Hospital, Chicago, 1884; died May 20, aged 85, of carcinoma of the large bowel and malignant cachexia.

KILLED IN ACTION

Robert Satterlee Hurlbut, Cambridge, Mass.; Harvard Medical School, Boston, 1938; diplomate of the National Board of Medical Examiners; served an internship and residency at the Massachusetts General Hospital; began active duty as a lieutenant (jg) in the medical corps of the U. S. Naval Reserve on Oct. 19, 1942; following service at the Chelsea Naval Hospital at the Office of Medical Officer Procurement, First Naval District, and as physician at the Harvard Naval Dispensary, began sea duty on the *Halligan* in September 1943; saw service in the Atlantic and in North Africa; was in invasion actions for more than a year in the Pacific; promoted to lieutenant; killed in action March 26, aged 33, when the destroyer *Halligan* was sunk off Okinawa.

Helmut William Fesca, San Francisco; University of California Medical School, San Francisco, 1943; interned at the Franklin Hospital; member of the American Medical Association; began active duty as a first lieutenant in the medical corps, Army of the United States, on Dec. 26, 1943; killed in France July 27, 1944, during an American dive bomber attack on a German train in which he was a prisoner, aged 27.

Burton Adam Hall, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1938; interned at St. Luke's and Children's Hospital; began active duty as a first lieutenant in the medical corps, Army of the United States, on July 24, 1942; attached to the air corps; in November 1942 graduated as a flight surgeon from the School of Aviation Medicine, Randolph Field, Texas; assigned to the first medical air evacuation transport squadron to function in any theater of war; aboard a transport aircraft which departed Jan. 13, 1943, for Guadalcanal, Solomon Islands, and failed to reach its destination en route to Efate, New Hebrides; posthumously awarded the Purple Heart; officially declared dead Jan. 13, 1944, aged 31.

Mack Milton Strickland, Selma, Ala.; University of Alabama School of Medicine, 1900; died in the King Memorial Hospital May 16, aged 69, of cardiac failure due to hypertensive heart disease.

Albert Tower Summers, Mattoon, Ill.; Kentucky School of Medicine, Louisville, 1903; member of the American Medical Association; on the staff of the Memorial Methodist Hospital; died in the Doctors Hospital, Washington, D. C., June 2, aged 67, of coronary thrombosis.

William Zerns Suplee, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1897; died June 1, aged 70, of heart disease.

Merrick Ward Swords, New Orleans; Medical Department of Tulane University of Louisiana, New Orleans, 1907; formerly secretary of the state board of health; for many years associated with the city board of health; in 1916 appointed chief of staff of the genitourinary department of the Charity Hospital; served as associate editor of the *Southern Medical Journal;* died in June, aged 61, of coronary thrombosis.

Charles A. Talbot, Waynesville, Mo.; Northwestern University Medical School, Chicago, 1904; member of the American Medical Association; died in Pryor, Okla., July 31, aged 65, of cerebral hemorrhage.

James J. Toalson, East Alton, Ill.; St. Louis College of Physicians and Surgeons, 1897; served on the staff of St. Francis Hospital in Peoria; died May 30, aged 72, of cerebral arteriosclerosis.

Fletcher Jackson Van Meter ✠ Talmage, Calif.; Drake University College of Medicine, Des Moines, 1906; fellow of the American Psychiatric Association; served during World War I; formerly on the staffs of the Clarinda (Iowa) State Hospital and the Norwalk State Hospital in Norwalk; clinical director of the Mendocino State Hospital; died August 4, aged 61, of coronary occlusion.

William George Wander ✠ Detroit; Washington University School of Medicine, St. Louis, 1919; member of the American Academy of Dermatology and Syphilology; past president of the Detroit Dermatological Society; associate dermatologist at St. Mary's Hospital; on the staff of St. Joseph's Mercy Hospital, where he died May 21, aged 56, of heart disease.

Robert Taylor Wheeler ✠ Brooklyn; College of Physicians and Surgeons, New York, 1892; served on the staff of the Bethany Deaconess Hospital; June 5, aged 76, of cerebral hemorrhage.

LIEUT. FRANK REICHENBACH
(MC), U.S.N.R., 1909-1944

LIEUT. VICTOR HERBERT KARPASS
M. C., A. U. S., 1909-1942

CAPTAIN KARL MARTIN RAGUE
M. C., A. U. S., 1917-1945

Frederick Vail Thompson, Belmar, N. J.; Long Island College Hospital, Brooklyn, 1890; died in the New Jersey State Hospital, Marlboro, May 18, aged 78, of arteriosclerotic cardiovascular renal disease.

Waddy Thompson Wilkinson Jr., Coushatta, La.; University of Arkansas School of Medicine, Little Rock, 1931; interned at Missouri Pacific Hospital, Little Rock; died May 28, aged 42.

KILLED IN ACTION

Frank Reichenbach, Watertown, Conn.; Tufts College Medical School, Boston, 1933; member of the American Medical Association; on the associate surgical staff at the Waterbury Hospital, Waterbury, where he served an internship and a residency and where he took an active part in the tumor clinic, serving as chairman for two years; served a residency at the Westfield State Hospital in Westfield, Mass.; organized the outpatient follow-up tumor clinic at the Chase Memorial Dispensary and was instrumental in organizing a biopsy service in the Waterbury area; fellow of the American College of Surgeons; formerly health officer of Woodbury; began active duty as a lieutenant in the medical corps of the U. S. Naval Reserve on July 5, 1943; his first year was spent at Davisville and Newport, R. I., and Lido Beach, Long Island; in July 1944 left for overseas, where he was stationed in England and France; senior surgeon to the 114th Construction Battalion; killed in France Nov. 6, 1944, aged 35.

Victor Herbert Karpass, Chicago; University of Illinois College of Medicine, Chicago, 1935; member of the American Medical Association and the Missouri State Medical Association; interned at St. Mary's Hospital in Minneapolis and the Woodlawn Hospital in Chicago; served a residency at the Anna State Hospital in Anna, Ill.; began active duty as a first lieutenant in the medical corps, Army of the United States, on Feb. 24, 1942; awarded posthumously the Distinguished Service Cross for heroism; killed in action in Africa Nov. 8, 1942, aged 33.

Karl Martin Rague, Manchester, Mich.; University of Michigan Medical School, Ann Arbor, 1942; interned at the Robert Packer Hospital in Sayre, Pa.; began active duty as a first lieutenant in the medical corps, Army of the United States, on July 29, 1943; promoted to captain; mortally wounded at Bastogne, Belgium, on January 9; died at 101st Evacuation Hospital in Eastern France January 10, aged 27.

Bureau of Investigation

SOME MISCELLANEOUS MEDICAL FRAUDS

A Variety of Schemes Debarred from the Mails

Fraud orders issued by the Post Office Department have frequently been the subject of extensive articles by the Bureau of Investigation in these pages of The Journal. Following are brief abstracts of some fraud orders not dealt with previously:

Hema-Tone Laboratory and John B. Swabey, M.D., N.D.—From Muskegon, Mich., Dr. Swabey conducted a mail-order business under the title mentioned, selling certain preparations comprising his "New Natural Home Treatment," which he represented to overcome any disease of the prostate gland, regardless of the age of the user or chronicity of the condition, as well as kidney and bladder disorders, and to restore persons afflicted with "male weakness" to "manly strength." Further, he represented that he could correctly diagnose the physical condition of his mail-order inquirers and properly prescribe treatment on the basis of a urinalysis and replies submitted in a questionnaire which he sent out. Advertising was done in periodicals of national circulation and through written and printed matter sent through the mails. In this Dr. Swabey was claiming as recently as 1942: "It has become my privilege to teach and demonstrate my theory of regeneration of the prostate gland. . . . In April 1934 I published the first announcement in medical history, of a theory and plan of treatment designed to assist Nature in the process of regeneration of the prostate gland. . . . Prior to the above date mentioned, medical science had no adequate treatment to offer for the non-specific diseases of the uro-genital system. And so far as I know have nothing of scientific value to offer now. . . . These good and faithful doctors, leaders of the Medical Profession, and eminent teachers of Medical Practice, have admitted that Medical Practice, as we know it, is useless in such cases. This left an open field for my research work. . . ." After the Post Office Department had thoroughly investigated Dr. Swabey's activities, it notified him to be present at a hearing in November 1943 and show cause why his business should not be declared a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises. He neither put in an appearance nor sent counsel to represent him. The testimony of a chemist and a physician, both appearing as witnesses for the government at the hearing, resulted in the recommendation that a fraud order be issued against the Hema-Tone Laboratory and John B. Swabey, M.D., N.D., and this was accordingly done. It is worth noting that a few weeks after the hearing Dr. Swabey died of a disorder of the prostate and bladder, the very organs for which his "treatment" was promoted.

Herb-Vite Company and Rite-Wate Company.—These were the names variously used by a New York concern that sold "Herb-Vite Tablets" and "Rite-Wate Tablets," which were identical in composition, according to the ingredients named on their respective labels, and which emanated from the same address. With the first-named product came a booklet presenting the "Herb-Vite Reducing Method." The names of the backers of this concern were not reported. The Post Office Department, after investigating the business, charged it with being a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises. Among these were that the Herb-Vite Reducing Method would enable obese persons, including "difficult" cases, to eliminate their excess fat and attain a "slim" and "lovely" figure quickly, harmlessly, and without the necessity of a restricted diet; that the users could effect this reduction while still eating plenty of food; that the essential action of the Herb-Vite Tablets was soothing, non-habit-forming, absolutely harmless, and produced laxation without griping or irritation; and that persons using these tablets would obtain the same alleged beneficial results as those whose purported testimonials were set forth in the company's circulars. At the hearing of the case in November 1943, the respondents sent no one to represent them. A chemist of the Food and Drug Administration, appearing as a witness for the government, testified that the ingredients, as declared on the label—colocynth, jalap, podophyllin, leptandrin, gentian and peppermint—were confirmed by his own examination, except that he found no peppermint present. Another witness for the government was a Senior Medical Officer of the Food and Drug Administration, who testified that he was familiar with the actions of the ingredients named, and that this mixture of irritant laxatives would not enable obese persons to eliminate their excess weight and obtain a slim figure quickly, harmlessly and without following a restricted dietary regimen. He also showed, among other things, that regardless of the laxative effect of the tablets, the user's weight would be practically the same if the quantity of food consumed was not materially reduced. Further, his testimony brought out that the drugs in question produce griping and irritation and, on continued use, a laxative habit, nor are they "absolutely harmless," as they would be dangerous in certain conditions, such as appendicitis, stomach ulcers, gallstones and other inflammatory disorders of the intestinal tract. At this hearing the further fact was emphasized that an inquiry addressed to the Herb-Vite Company had brought a reply from the Rite-Wate Company, and when an order was sent to the latter, it mailed the inquirer a box of "reducing tablets" bearing a formula and directions for use identical with those on the box of Herb-Vite Tablets. On May 4, 1944, the Post Office Department issued a fraud order against the Herb-Vite Company and the Rite-Wate Company at New York, debarring them from further use of the mails, on the ground that they had conducted a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises.

Mrs. Nancy Young.—From Alba, Texas, this person sold through the mails what she represented to be a cure for cancer, dropsy, pellagra, female diseases, rheumatism and kidney and bladder disorders. To one inquirer she wrote in part: "I treat everthing that any one could Suffer with Cancer & Pelegura Dropsy feemale troble of all Kind Kidney & Blader Troble Rheumatism & in facts everthing. . . . My Cancer Cure is Wonderfull. . . . Hoping to heare from you Soon." Because of this obvious abuse of the mails and imposition on the public, the Post Office Department, after due investigation of the treatment and its promotion, notified Mrs. Young to show cause why a fraud order should not be issued against her. She neither put in an appearance at the hearing of the case held in Washington nor sent anyone to represent her. On this occasion a chemist and a microanalyst of the Food and Drug Administration, witnesses for the government, testified regarding their respective chemical and microscopic examinations of each of the packages of capsules and herbs sent out by Mrs. Young in response to two orders for her "cancer treatments." The witnesses showed that the two treatments purchased were essentially identical, each consisting of four separate packages. The first of these contained gelatin capsules in which were found podophyllum, powdered root bark and stems of dogwood. The second contained capsules of powdered podophyllum. The third and fourth were practically identical, consisting of fragments of root bark, stems of dogwood, and two species of mint, with small amounts of sodium and potassium oxides, iron, calcium, sulfate and chlorides. These were to be made into a solution, and accompanying each package were handwritten instructions on plain paper. Another government witness, a Senior Medical Officer of the Food and Drug Administration, testified that he was familiar with the modern scientific medical treatment of cancer and the other diseases played up by Mrs. Young; that a cancer is a malignant tumor which will in due time result in death unless scientifically treated by surgery, X-ray or radium, and that there is no known drug, herbal treatment or dietary measure which will cure the condition. Hence Mrs. Young's nostrums would be absolutely worthless in treating cancer. Accordingly, a fraud order was issued on Oct. 3, 1944, against Mrs. Nancy Young.

Correspondence

HEPATITIS FOLLOWING BLOOD OR PLASMA TRANSFUSION

To the Editor:—In the paper on "Hepatitis Following Blood or Plasma Transfusions" by Capt. E. M. Ppaport in the issue of July 28 it is stated that those blood donors in the preicteric stage or with hepatitis without obvious jaundice constitute the greatest menace as propagators of hepatitis. It is further stated that "in view of the widespread incidence of infectious hepatitis a transient healthy carrier state might exist among some volunteer blood donors and detection of such depositors would be impossible."

For the detcction of those in the preicteric stage, the following suggestions were made: (1) "Recording the lot number of each flask of plasma at the time of its use, thus permitting ultimate withdrawal of contaminated batches"; (2) "that quantitative bilirubin determinations be performed routinely on all patients who have received plasma or blood from doubtful sources at monthly intervals from the third to the sixth month after transfusion."

It seems to me that a more effectual method would be to detect the possible source of jaundice before it has been allowed to operate by icterus index or van den Bergh tests on donors' blood rather than to seek to find the responsible lots of blood or plasma after cases of hepatitis have developed.

The icterus index is a simple test and entirely reliable when fasting blood is used. It is exceedingly rare for the icterus index to be above 6 in the normal subject in the fasting state. The raised index from carotenemia in the normal individual disappears in four to five hours after eating. Persistent carotenemia presumably indicates some liver dysfunction and is therefore abnormal. It may possibly occur in infectious hepatitis; accordingly, in this respect the icterus index, which measures the color of the serum only, may be a more suitable test than the van den Bergh reaction. The so-called physiologic hyperbilirubinemia is rare and may be considered negligible in this situation.

It is the practice of the Red Cross to give orange juice just before venipuncture. What effect, if any, this would have on the icterus index could be easily ascertained. Usually the

icterus index rises for a few hours after meals, in some cases 1 or 2 points. Thus a high normal reading of 6 may be 7.5 to 8 after eating. The zone of latent jaundice, or the preicteric stage, lies between 6 and 15 in the fasting state. Clinical jaundice appears with an icterus index of 15.

ALICE R. BERNHEIM, M.D., New York.

INFECTIOUS HEPATITIS

To the Editor:—In the article of Col. M. H. Barker, Major R. B. Capps and Major Frank W. Allen on infectious hepatitis (THE JOURNAL August 4, p. 997) the statement is made "The oral hippuric acid liver function test in our hands has shown practically no correlation with the clinical condition of the patient. Thus the test frequently gave relatively normal results during the acute stage and very low results in the convalescent period." This is rather surprising, since in my early studies of the test I found it consistently low in catarrhal jaundice, which many consider closely related to the entity. Recently Rennie (*Am. J. M. Sc.* **210**:18 [July] 1945) in 39 cases of infective hepatitis found the output of hippuric acid much reduced in 27 during the acute stage. In many patients the test was run serially over a period of weeks, with strikingly consistent results. Rennie further found that when the plasma bilirubin was greater than 10 mg. per hundred cubic centimeters the hippuric acid synthesis and the levulose tolerance test were invariably impaired and the plasma albumin was below normal.

The fact that the hippuric acid as well as other tests are often low during the convalescent stage is of clinical significance especially in the prognosis and perhaps in establishing a criterion of complete recovery.

ARMAND J. QUICK, M.D., Milwaukee.

ALCOHOL AND PANCREATIC NECROSIS

To the Editor:—The editorial (May 12, p. 144) on "Intravenous Alcohol Anesthesia as Used in Russia" and other recent work (Moore, Daniel C., and Karp, Mary: Intravenous Alcohol in the Surgical Patient, *Surg., Gynec. & Obst.* **80**:523 [May] 1945) suggest another revival of interest in alcohol as an anesthetic agent. It seems in order, therefore, to call attention again to a poorly understood and, in my opinion, not widely known relationship between alcohol and acute (as well as chronic) pancreatic necrosis (Weiner, H. A., and Tennant, Robert: A Statistical Study of Acute Hemorrhagic Pancreatitis, *Am. J. M. Sc.* **196**:167 [Aug.] 1938). Statistically, the relationship is clearcut, though unimpressive in view of world alcohol consumption figures. Occasionally it is dramatic and unforgettable.

H. A. WEINER, M.D.
2d General Hospital, A. P. O. 513, New York.

LOEFFLER'S SYNDROME AFTER CUTANEOUS HELMINTHIASIS

To the Editor:—The report of Wright and Gold in THE JOURNAL, August 11, of Loeffler's syndrome following cutaneous helminthiasis adds a hitherto unreported etiologic factor and supports the view that this syndrome is an allergic phenomenon. For the sake of completeness, it is worthy of note that the first report of Loeffler's syndrome in the United States known to me indicated that the allergic response in the case observed (Ellis, Ralph V., and McKinlay, C. A.: Allergic Pneumonia, *J. Lab. & Clin. Med.* **26**:1427 [June] 1941) was due to the oral administration of a sulfonamide compound.

C. A. MCKINLAY, M.D., Minneapolis.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Medical Practice Acts: Revocation of a "Duplicate" License Fraudulently Obtained to Replace a Nonexistent "Original" License.—Jacobson, a graduate of Middlesex College of Medicine and Surgery, obtained in 1936 from the Rhode Island Board of Examiners in Medicine a so-called "duplicate" certificate of authority to practice medicine to replace a certificate that he claimed had been issued to him on Oct. 11, 1934 by the state public health commission, which at that time had the authority to issue such certificates, after examination but which he had subsequently lost. Later the board instituted proceedings to revoke the duplicate certificate on the ground that it had been obtained by fraud, since no original certificate had ever been issued to him. After due notice and hearing the board ordered the so-called duplicate certificate revoked, and Jacobson appealed to the Supreme Court of Rhode Island, which in accordance with the applicable law heard the matter *de novo*.

Jacobson contended that the Supreme Court could not properly hear and decide the appeal because in the hearing before the board there was not a sufficient specification of the fraud with which he was charged to have been guilty in procuring the so-called duplicate certificate. The court, however, found no merit in the contention. The evidence, said the Supreme Court, discloses a chain of facts and circumstances which lead to the conclusion that Jacobson, through fraud or deception, obtained his certificate to practice medicine in Rhode Island. When the examinations to which Jacobson claimed he submitted and passed were conducted—Oct. 4 and 5, 1934—according to the rules of the department of public health, the medical college from which Jacobson graduated was not recognized as an approved college whose graduates were permitted to submit to examination, and there is no evidence that that requirement had been waived in favor of Jacobson to permit him to take the examination. There were introduced in evidence six manila envelops, numbered 2193 to 2198 inclusive, taken from the files of the state department of health pertaining to the examination given on the dates referred to. None of the numbers on these envelops is followed by a letter. There was introduced in evidence another envelop numbered "2197-A" which bore Jacobson's name and on the contents of which he relied as showing that he took and passed that examination and received a valid certificate. On each of the envelops other than the one bearing Jacobson's name the number was shown in large heavy figures, bluish green, all of the same size, and plainly not typewritten. On the envelop bearing Jacobson's name the number is much smaller, with less heavy figures, and is plainly typewritten in black. To our minds, said the court, these facts strongly indicate that the envelop numbered 2197-A purporting to relate to Jacobson had not been filed before or at the time of the examination of Oct. 4 and 5, 1934 but had been filed at some time thereafter.

It is also noteworthy, continued the court, that in every one of these envelops except the one bearing Jacobson's name there is a receipt from the state treasurer's office showing the payment, into the state treasury by the applicant for a license, of a $20 examination fee, while no such receipt is among the papers in the envelop bearing Jacobson's name. The medical practice act in force at that time required any applicant presenting himself for examination to present to the board of examiners a receipt from the general treasurer that he had paid the required $20. Jacobson testified that before taking the examination he paid $20 to some unknown, unidentifiable employee in the office of the state board of health and that he received no receipt therefor. The physician who was director of public health during the period in question testified that the return of

such a receipt to the department of health was a prerequisite that was never waived and that he gave out the blank examination books only to applicants who showed receipts from the state treasurer. As further indicating that Jacobson never took or passed the examination in question, the physician just referred to testified that during his term of office it was the custom to give out in writing to certain newspapers, including the Providence *Journal*, the names of applicants who had passed the examination for certificates of authority for the practice of medicine and to check up on the names of those who were reported in these newspapers as having passed such examination and to call any error to the attention of the newspapers so that it could be corrected. A copy of the Providence *Journal* for Oct. 12, 1934 was then introduced in evidence containing a list of the names of nine persons who had successfully passed the examination of Oct. 4 and 5, 1934 and Jacobson's name was not in that list. Further, a physician who was a member of the state public health commission at the time of the examination in question testified that he gave the examination in one of the subjects and that Jacobson did not take that examination.

Jacobson's main reliance to prove that he had in fact been issued the original certificate in dispute was an exhibit containing certain papers enclosed in a manila envelop marked "State Cert. No. 2197-A Name Jacobson, Charles Date Issued 10-11-34." On the back of one of the documents contained in that envelop the following appeared: "State Certificate No. 2197-A. Issued October 11, 1934 Rhode Island State Public Health Commission . . . Application of Charles Jacobson Application received Sept. 3, 1934 Fee received for examination .....193..Appeared for examination Oct. 4, 1934 . . . Graduate from Middlesex 1932 Photograph received Sept. 3, 1934 Average per cent. obtained 81.5." These last figures had been put in with a lead pencil. In the envelop was also a so-called "application" in the same form as the applications that were filed in the other manila envelop referred to containing the applications and other papers of persons who admittedly passed the examination of Oct. 4 and 5, 1934 and who subsequently received licenses. The purported application of Jacobson showed, among other things, what purported to be a statement of the percentages at which his answers were rated by the examiners in the separate subjects. This statement bore the date "October 11, 1934." At the end of the document was an unframed photograph of Jacobson. On the first inside page of the purported application Middlesex College of Medicine and Surgery was written in as the medical college from which Jacobson was graduated and on the next line below appeared the date of graduation, written in ink, "June 15, 1932." But, said the court, an inspection of the writing showed that the letters "une" in June, the figure "5" in the "15" and the figure "2" in the "1932" had been written in after the erasure of previous letters and figures. The envelop also contained an original letter dated Feb. 26, 1937 from the registrar of Middlesex College to the division of examiners which, in part, said "Please be advised that Dr. Charles Jacobson was graduated with the degree of Doctor of Medicine from the Middlesex College of Medicine and Surgery on August 7, 1933." The purported application also included a jurat bearing the signature and seal of Greenspan, a notary public, and stating that the application was signed and sworn to before him on the "3d. day of Sept. A. D. 193 4," the open space between the 3 and the 4 being large enough for another figure. Greenspan had first testified that he could not recollect the date on which he took this acknowledgment, and on request he wrote a figure 4 on a sheet of paper which he admitted was obviously different from the figure 4 that appeared in the jurat. Later in the course of the hearing the state toxicologist testified, as an expert in restoring erased handwriting, that he had a chemical which would restore erased writing if the ink used contained iron. He then applied this test to the open space between the figures 3 and 4 in the year date in the jurat referred to and as a result a figure was brought into view which was clearly not a 4 and which was or very closely resembled a figure 5 and which the witness testified had been removed by a chemical ink eradicator. Greenspan later testified that that figure looked like his 5 and that he had not used an ink eradicator to change the date he had written. Thus, concluded the court, the evidence as to the date of the jurat, even if considered alone, makes it extremely improbable that Jacobson's application was filed before the examination was given in October 1934.

Other evidence was discussed by the court tending to show that Jacobson in fact had never submitted to the examination in question nor received a certificate. There was, for instance, produced a photostatic copy of an application by Jacobson to the board of registration in medicine in Massachusetts in 1935 in which in response to a question as to states in which he was licensed to practice medicine he did not mention Rhode Island. The Supreme Court thought it extremely unlikely that he would not have answered Rhode Island in answer to that question if he had in fact received such a license. Again there was testimony from a physician who had been examined on Oct. 4 and 5, 1934 and who had been licensed thereafter that a short time before the hearing before the board Jacobson had asked him to testify that he of his own knowledge knew that Jacobson had taken the examination and that he informed Jacobson that he could not do so.

It seems obvious to us, continued the court, that some employee of the department of public health or some other person having knowledge of its methods and access to its records must have cooperated with Jacobson in preparing the papers on which he mainly relied and in causing the issuance to him of the so-called duplicate certificate; but there is no reason to go into that phase of the matter, as it is not necessary to do so to establish Jacobson's fraud. We find that the board of medical examiners proved by credible evidence that Jacobson did not take the examination of Oct. 4 and 5, 1934; that no original certificate was issued to him; and that such so-called "duplicate" certificate of authority to practice medicine was obtained by fraud and should be revoked. The order of the board revoking the duplicate certificate was accordingly affirmed. —*Board of Examiners in Medicine v. Jacobson, 42 A. (2d) 887 (R. I., 1945).*

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

BOARDS OF MEDICAL EXAMINERS
BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Examinations of the boards of medical examiners and boards of examiners in the basic sciences were published in THE JOURNAL, Sept. 8, page 751.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Parts I and II, Nov. 12-14. Part III, New York City, Oct. 15-17; Boston, Oct. 16-17. Exec. Sec., Mr. E. S. Elwood, 225 S. 15th Street, Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY: *Written.* Various centers, Jan. 18. Final date for filing application is Oct. 20. *Oral.* Various centers, Oct. 1946. Sec., Dr. Paul M. Wood, 745 Fifth Ave., New York 24.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* Chicago, May 27. Final date for filing application is Feb. 1. Sec., Dr. P. C. Bucy, 912 S. Wood St., Chicago 12.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *Written. Part I.* Various centers, Feb. 2. Final date for filing application is Nov. 1. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh 6.

AMERICAN BOARD OF OPHTHALMOLOGY: Chicago, Jan. 18-22 and Los Angeles, Jan. 28-Feb. 1. Sec., Dr. S. Judd Beach, 56 Ivie Rd., Cape Cottage, Me.

AMERICAN BOARD OF OTOLARYNGOLOGY: Chicago, Oct. 3-6 (canceled). Spring 1946. Sec., Dr. Dean M. Lierle, University Hospital, Iowa City, Ia.

AMERICAN BOARD OF PEDIATRICS: *Written.* Locally, Oct. 19. *Oral.* New York, Dec. 7-8. Sec., Dr. C. A. Aldrich, 115½ First Ave., S.W., Rochester, Minn.

AMERICAN BOARD OF SURGERY. *Written.* Part I. Spring 1946. Final date for filing application is Dec. 1. Sec., Dr. J. Stewart Rodman, 225 South 15th St., Philadelphia.

AMERICAN BOARD OF UROLOGY: *Written.* Various centers, Dec. 9. *Oral.* Chicago, February 1946. Sec., Dr. Gilbert J. Thomas, 1409 Willow St., Minneapolis 4.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1935 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

Alabama State Medical Assn. Journal, Montgomery

14:285-312 (June) 1945

Predicament of Modern Medicine. M. S. Davie.—p. 285.
Challenge to Medical Profession. W. H. McCaslan.—p. 288.
Study of 838 Inmates of Partlow State School, with Particular Reference to Training and Parole. R. C. Partlow.—p. 290.

American Heart Journal, St. Louis

29:661-778 (June) 1945

*Subacute Bacterial Endocarditis in the Aged. F. D. Zeman.—p. 661.
Electrocardiogram and Cardiac State in Active Sickle Cell Anemia. T. Winsor and G. E. Burch.—p. 685.
Normal Human Ventricular Gradient: V. Relationship Between $\hat{A}_{QRS}$ and G, and Potential Variations of Body Surface. R. Ashman, F. P. Ferguson, Alice I. Gremillion and E. Byer.—p. 697.
Diphtheritic Myocarditis, with Report of 2 Cases. D. Ball.—p. 704.
Use of Augmented Unipolar Left Leg Lead in Differentiation of Normal From Abnormal Q Wave in Standard Lead III. G. B. Myers and B. G. Oren.—p. 708.
Delayed Conduction in Bundle Branches: Report of 2 Cases in Which PR Interval Increased with Changes from Left to Right Bundle Branch Block. W. Dressler.—p. 728.
Simple Switching Device to Facilitate Recording of Electrocardiograms Embodying Multiple Types of Leads. C. B. Ethridge and M. H. Stolar.—p. 733.
*Microscopic Lesions of Left Atrial Endocardium in Chronic Rheumatic Heart Disease. S. Koletsky.—p. 739.

Subacute Bacterial Endocarditis in the Aged.—A review of 700 postmortem examinations of persons aged 60 years and over revealed a surprisingly high incidence of acute and subacute bacterial endocarditis. There were 18 cases of subacute bacterial endocarditis in the age range 60 to 87 observed in the wards of the Mount Sinai Hospital during the past ten years. Zeman emphasizes the high incidence of rheumatic valvular lesions as the basis for the endocarditis, with the occurrence in this role less frequently and in the order named of arteriosclerotic, syphilitic, congenital and thyrotoxic heart disease. Approximately one half of the cases exhibited a typical, though often modified, clinical picture. A group of more difficult cases may be subdivided into bacteria free cases, characterized predominantly by heart failure, splenomegaly, anemia and renal insufficiency, and into cases which completely elude precise diagnosis owing to the masking of the endocarditis by involvement of the central nervous system and by a variety of other clinical findings which tend to distort diagnostic emphasis. Clinical recognition of subacute bacterial endocarditis depends on the physician's constant effort to achieve diagnostic accuracy in the aged by utilizing for them the same careful observation and the same methods of precision commonly employed for the young.

Lesions of Left Atrial Endocardium in Chronic Rheumatic Heart Disease.—Sections of the left atrium were obtained from 100 nonrheumatic and 100 rheumatic hearts. The rheumatic hearts were the seat of chronic or healed disease and showed no active gross lesions. Seventy-five showed mitral stenosis and 25 had nondeforming mitral valvulitis. In the 100 hearts with chronic rheumatic disease there was gross involvement of the left atrial endocardium in 42 cases and microscopic involvement in 60 cases. Certain microscopic lesions of the endocardium of the left atrium, which occur rarely if at all in normal hearts or in other types of heart disease, form practically pathognomonic stigmas of rheumatic endocarditis. In the endocardium proper these include vascular penetration, cellular exudate and cellular hyperplasia of connective tissue; in the subendocardium they include excessive vascularity and cellular exudate, the presence of small arteries with musculoelastic wall and Aschoff nodules. Other lesions, such as subendothelial plaque, endocardial fibrosis and increase in thickness of smooth muscle, may be highly suggestive of rheumatic disease but require differentiation from corresponding alterations in structure of the normal endocardium. Rheumatic endocarditis of the left atrium usually occurs in hearts with deformity of the mitral valve and with more or less widely distributed microscopic rheumatic stigmas, especially of the valves. In occasional instances, however, atrial stigmas aid in establishing rheumatic fever as the cause of equivocal valvular disease.

American J. Digestive Diseases, Fort Wayne, Ind.

12:219-254 (July) 1945

Gerontology. H. W. Soper.—p. 219.
Newly Isolated Active Principles of Senna: Preliminary Report. H. A. Rafsky, B. Newman and S. Seidenberg.—p. 221.
Splenic Abscess: Three Cases of Pyogenic Infection. A. Bassler.—p. 223.
Mechanism of Water Balance in Bowel and Its Control. H. Gauss. —p. 224.
Statistical Study of Surgery of Biliary Tract Disease Over Period of Five Years Without Supervised Routine Management. P. V. Prewitt. ——p. 231.
Statistical Study of Surgery of Biliary Tract Disease over Period of Five Years Under Supervised Routine Management. P. V. Prewitt. —p. 237.
Glossitis and Cheilosis Healed Following Use of Calcium Pantothenate. H. Field Jr.; M. E. Green and C. W. Wilkinson Jr.—p. 246.
*Fatty Hepatomegaly with Pancreatic Fibrosis Controlled by Lipocaic. F. Browne and W. Thomas.—p. 250.

Fatty Hepatomegaly with Pancreatic Fibrosis Controlled by Lipocaic.—For the past eighteen months Browne and Thomas have observed a patient who exhibits many of the signs and symptoms of lipocaic deficiency. The administration of lipocaic, furnished by Dr. Dragstedt's laboratory, has produced a striking decrease in the size of the enlarged liver, stabilized the fat concentration of the blood and improved the liver function. There was gain in weight, restoration of appetite and a sense of well-being. The withdrawal of lipocaic has repeatedly caused the reestablishment of the syndrome. The appearance of pronounced fatty infiltration of the liver in this patient together with evidence of extensive fibrosis of the pancreas as revealed at the exploratory operation suggests an interrelationship between the two phenomena. Exacerbation of the hepatomegaly due to the ingestion of large amounts of alcohol, which occurred several times in this case, is interesting in view of Connor's observations that fatty infiltration of the liver represents an early stage in the development of cirrhosis. The complete recession of the hepatomegaly and striking clinical improvement produced by the administration of lipocaic presents evidence that a deficiency of this secretion due to the fibrosis of the pancreas was the underlying cause of the disease.

American Journal of Physiology, Baltimore

143:635-740 (May) 1945

Tolerance to Arsenic Trioxide in Albino Rat. E. R. Norris and H. W. Elliott.—p. 635.
In Vitro and In Vivo Studies of Effect of Arsenite on Respiration of Rat Tissues. H. W. Elliott and E. R. Norris.—p. 639.
Nature and Mechanism of Shock Produced by Intravenous Injection of Chymotrypsin. H. J. Tagnon, A. R. Weinglass and W. E. Goodpastor. —p. 644.
Transient and Permanent After-Effects of Exposure to Oxygen at High Pressure. J. W. Bean and E. C. Siegfried.—p. 656.
Chloride Equilibrium in Muscle. W. S. Wilde.—p. 666.
Denervation Atrophy of Bone and Muscle: Examination of Effect of Choline and Some Further Observations on Metabolism of Phosphorylcholine and Deposition of P^{32} in Bone. R. F. Riley, Beatrix McCleary and Ruth E. Johnson.—p. 677.
Comparative Study of Cholinesterase Activity of Vertebrate Nervous System, with Especial Reference to Its Relationship to Motor Ability. V. F. Lindeman.—p. 687.
Stimulation of Livability and Glycolysis by Additions of Glucose to Egg Yolk-Citrate Diluent for Ejaculated Bovine Semen. G. W. Salisbury and N. L. Vandemark.—p. 692.
Effects of Blood Flow and Anoxia on Spinal Cardiovascular Centers. R. S. Alexander.—p. 698.
Determination of Cardiac Output in Dog by Fick Procedure. R. Shore, J. P. Holt and P. K. Knoefel.—p. 709.
Absorption, Distribution and Excretion of Thiourea. R. H. Williams and Gloria A. Kay.—p. 715.
Electrocardiographic Localization of Myocardial Infarcts by Injury Currents and Ventricular Extrasystoles. H. E. Hoff and L. H. Nahum. —p. 723.

Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

53:527-640 (June) 1945

Roentgen Examination of Urinary Tract. J. C. Bell, G. W. Heublein and H. J. Hammer.—p. 527.
*Aerosinusitis: Clinicoroentgenologic Study. M. Schneider.—p. 563.
Solitary Myeloma of Frontal Bone. C. W. Schwartz.—p. 573.
*Disseminated Calcified and Bony Nodules in Lungs Associated with Mitral Disease. A. Grishman and I. J. Kane.—p. 575.
Malignant Giant Cell Tumor of Lung. A. M. Gnassi and P. Price.—p. 582.
Intussusception of Stomach. M. H. Poppel and S. T. Herstone.—p. 585.
Military Photoroentgen Technic Employing Optimum Kilovolt (Peak) Principles. A. W. Fuchs.—p. 587.
Roentgen Therapy for Acute Encephalitis. U. V. Portmann and R. Lough.—p. 597.

Aerosinusitis.—According to Schneider, aerosinusitis is a traumatic disorder of the paranasal sinuses characterized by dramatic, sudden, severe pain localized over the affected sinuses and occurring during descent from altitude in an aircraft or altitude chamber. Its immediate cause is apparently sudden obstruction of a sinus ostium, as by a mucous plug or loose mucosal membrane, thereby sharply and radically increasing the relatively negative intrasinus pressure which presumably exists already in the sinus during descent. The intense pain of this condition is attributed to sudden ballooning of the sinus mucoperiosteum induced by the great negative pressure. Edema and transudation in the sinus may occur and may be accompanied by hematoma and/or frank hemorrhage. The x-ray appearance and the history are characteristic in this disorder. It is also possible that the pressure gradient may lead to an infective sinusitis by forcing aspiration of infected nasal secretions into a sinus previously damaged by infection.

Calcified and Bony Nodules in Lungs Associated with Mitral Disease.—Grishman and Kane draw attention to the coexistence of disseminated calcified and bony lesions in the lungs and rheumatic mitral disease. The present report is an attempt to correlate the x-ray, pathologic and clinical findings in 8 cases. The lesion was discovered in 4 cases preceding the first episode of congestive heart failure. The pathogenesis of the pulmonary lesions is not clear. There is no microscopic evidence that pulmonary arteritis or small pulmonary infarctions are precursors of such lesions. They suggest that careful inspection of the lungs in cases of adolescent or preadolescent rheumatic fever may yield significant data. The clinical histories of the reported cases suggest strongly that the precursor to these lesions must appear early in rheumatic fever and probably in childhood. The triad of symptoms that is important in the differentiation from tuberculosis is (1) the predominantly basal bilateral distribution, (2) the association with evidence of mitral stenosis and (3) the absence of other evidence of pulmonary tuberculosis.

Annals of Internal Medicine, Lancaster, Pa.

22:773-924 (June) 1945

Hirsutism in Females; Clinical Study of Its Etiology, Course and Treatment. G. W. Bissell and R. H. Williams.—p. 773.
Penicillin Treatment of Sulfonamide Resistant Gonorrhea; Results of 500 Cases Treated with 50,000 Units of Penicillin. A. I. Josey and F. E. Kirshman.—p. 807.
Clinical Interpretation of Insulin Induced Ketonuria. N. W. Drey.—p. 811.
*Picrotoxin in Barbiturate Poisoning. D. L. Burdick and E. A. Rovenstine.—p. 819.
Demonstration of Visceral Pain by Determination of Skin Potentials. L. M. Morrison and E. A. Spiegel.—p. 827.
Hypervitaminemia A in Recovery Stage of Various Diseases. F. Steigmann, K. A. Meyer and H. Popper.—p. 832.
Prothrombin Response to Large Doses of Synthetic Vitamin K in Liver Disease. S. Shapiro and R. K. Richards.—p. 841.
Liver Dysfunction Hyperglycemia: Its Etiology and Relation to Diabetes Mellitus. S. J. Taub, W. H. Shlaes and L. Rice.—p. 852.

Picrotoxin in Barbiturate Poisoning.—Burdick and Rovenstine maintain that from the point of view of safety and sustained effectiveness picrotoxin is preferable to other analeptics in the treatment of barbiturate poisoning. Mortality rates of over 7 per cent have been reported in attempted suicides with barbiturates. Prolonged hypoxia, intercurrent pulmonary infection, pulmonary edema, cerebral edema, nutritional deficiencies, depressed kidney function, decubitus ulcers and transient or more permanent neurologic sequelae are frequent accompaniments of prolonged barbiturate narcosis and should be avoided if possible. The authors think that to those familiar with its action and the method of administration there is no reason to withhold picrotoxin from patients for whom its use is indicated. It should be employed early and in adequate amounts supplemented by other supportive measures. Four essentially similar cases are presented to illustrate the effects of neglected, inadequate, delayed and more immediate treatment. Early and adequate analeptic therapy with picrotoxin may prevent death, obviate a prolonged illness and result in a complete or more nearly complete recovery.

Annals of Otol., Rhin. and Laryngology, St. Louis

54:243-442 (June) 1945

Disturbance of Function of Salivary Glands. A. C. Furstenberg and Elizabeth Crosby.—p. 243.
Chronic Suppurative Otitis Media. L. R. Boies.—p. 265.
Plasma Cell Tumors of Upper Part of Respiratory Tract. F. A. Figi, A. C. Broders and F. Z. Havens.—p. 283.
Irrigation of Maxillary Sinus by Way of Middle Meatus. O. E. Van Alyea.—p. 298.
Respiratory Function of Larynx: Some Observations on Laryngeal Innervation: Preliminary Report. J. A. Murtagh.—p. 307.
Simple and Practical Procedure for Developing Esophageal Voice in Laryngectomized Patient. E. T. Gatewood.—p. 322.
*New Treatment for Esophageal Obstruction Due to Meat Impaction. J. R. Richardson.—p. 328.
Management of Chronic Middle Ear Suppuration with Fistula. M. Tamari and L. Hirsch.—p. 349.
Prevention of Deafness in Children. R. M. Decker.—p. 358.
Stenger Malingering Test Made with Audiometer. R. Fletcher.—p. 362.
External Otitis in South Pacific. R. F. Nelson.—p. 367.
Maxillary Sinusitis of Dental Origin and Management of Antral Fistula. R. J. McQuiston.—p. 373.
Arterial Spasm and Fat Metabolism: Their Relation to Certain Diseases and to Certain Members of Vitamin B Complex. G. Selfridge.—p. 384.
Further Observations on King Operation for Bilateral Abductor Paralysis. L. F. Morrison.—p. 390.
Spasmodic Facial Neuralgia. R. L. Glass.—p. 409.
Hemangioma of Ear: New Method for Control of Hemorrhage. O. J. Dixon.—p. 415.
Clinical Observations on Palatine Tonsil in the Aged. G. Kelemen.—p. 421.

Esophageal Obstruction.—Richardson reports 17 cases of esophageal obstruction due to meat impaction. Only 2 adults and a 6 year old child had good teeth: each of these 3 had a strictured esophagus. Two other adults had teeth of their own, but 1 had many teeth missing and the other had broken teeth and many infected roots. The remaining 12 patients had no teeth of their own. The upper plate was blamed by them as the cause of their mishap. The upper artificial denture takes away the ability to feel food between the tongue and the hard palate. Consequently an overly large bolus of the food may pass back to the soft palate and be swallowed sooner than the victim intends. Six of the 17 persons had a normal esophagus. The other 11 had a narrowing or constriction of some portion of the esophagus. If the patient is young, nervous and without esophageal narrowing, morphine sometimes relaxes the normal esophagus sufficiently so that the foreign body slides down into the stomach. Spontaneous recovery can occur but is rare. Heretofore the esophagoscope has usually been employed for removal of the foreign body, particularly if the patient has waited several days before seeking help. Drew had successfully used caroid to dissolve impacted meat. Richardson used it or its chief constituent, papain. The proteolytic enzyme papain was orally ingested in a 5 per cent solution. Sixteen of these patients were promptly relieved of their obstruction. One patient, unable to retain the medicine, required operative removal of the foreign body. Operative removal of meat causing esophageal obstruction will seldom be necessary if the patient is given orally the proteolytic enzyme papain.

Bulletin New York Academy of Medicine, New York

21:337-390 (July) 1945

Influenza: Methods of Study and Control. T. Francis Jr.—p. 337.
Concepts of Immunology of Certain Virus Infections. P. K. Olitsky and J. Casals.—p. 356.
Differences in Nature of Antibacterial Action of Sulfonamides and Penicillin and Their Relation to Therapy. C. M. MacLeod and Edna R. Stone.—p. 375.

Delaware State Medical Journal, Wilmington

17:111-128 (June) 1945

Thermal Burns. S. M. Rennie.—p. 111.
Total Gastrectomy. G. S. Serino.—p. 113.
Hydronephrosis in a Child. H. Wilson.—p. 118.

Georgia Medical Association Journal, Atlanta

34:87-106 (May) 1945

Sarcoidosis: Incidental Finding in Postmortem Examination of 81 Year Old Woman Dying of Coronary Occlusion. C. Smith and H. C. Sauls.—p. 87.
Physical Therapy at Home for Peripheral Arterial Disease. C. J. McLoughlin.—p. 91.
Ruptured Uterine Myoma Simulating Ruptured Tubal Pregnancy with Hemorrhage. J. W. Pilcher, D. M. Cornett and Gladys N. Coker. —p. 94.

34:107-128 (June) 1945

Leather Bottle Stomach. F. K. Boland.—p. 107.
Diagnostic and Therapeutic Uses of Pituitary Extracts in Obstetrics. R. A. Bartholomew.—p. 110.
Tuberculosis: Whose the Burden? H. C. Schenck.—p. 113.
Relapsing Syphilis After Inadequate Penicillin Therapy. H. Hailey. —p. 116.

Journal of Clinical Investigation, Boston

24:251-404 (May) 1945

*Treatment of Subacute Bacterial Endocarditis with Penicillin. A. L. Bloomfield, C. D. Armstrong and W. M. M. Kirby.—p. 251.
Anemia, Hypoproteinemia and Cataracts in Swine Fed Casein Hydrolysate or Zein: Comparison with Pyridoxine Deficiency Anemia. G. E. Cartwright, M. M. Wintrobe, W. H. Buschke, R. H. Follis Jr., A. Suksta and S. Humphreys.—p. 268.
Progressive Addisonian Pernicious Anemia Successfully Treated with Intravenous Choline Chloride. F. B. Moosnick, E. M. Schleicher and W. E. Peterson.—p. 278.
Conversion of Hematin to Bilirubin Following Intravenous Administration in Human Subjects. I. J. Pass, S. Schwartz and C. J. Watson. —p. 283.
Mechanism of Positive Cephalin-Cholesterol Flocculation Reaction in Hepatitis. D. B. Moore, P. S. Pierson, F. M. Hanger and D. H. Moore.—p. 292.
Significance of Cephalin-Cholesterol Flocculation Test in Malarial Fever. S. A. Guttman, H. R. Potter, F. M. Hanger, D. B. Moore, P. S. Pierson and D. H. Moore.—p. 296.
Comparative Studies of Chemical Changes Occurring in Sulfonamide Drugs During Therapy in Man. D. R. Gilligan, with the technical assistance of Edith M. Beck.—p. 301.
Factors Influencing Ascites in Patients with Cirrhosis of Liver. Elaine P. Ralli, J. S. Robson, D. Clarke and C. L. Hoagland.—p. 316.
Cardiac Output in Male Subjects as Measured by Technic of Right Atrial Catheterization: Normal Values with Observations on Effect of Anxiety and Tilting. E. A. Stead Jr., J. V. Warren, A. J. Merrill and E. S. Brannon.—p. 326.
Cardiac Output in Patients with Chronic Anemia as Measured by Technic of Right Atrial Catheterization. E. S. Brannon, A. J. Merrill, J. V. Warren and E. A. Stead Jr.—p. 332.
Effect of Venesection and Pooling of Blood in Extremities on Atrial Pressure and Cardiac Output in Normal Subjects, with Observations on Acute Circulatory Collapse in Three Instances. J. V. Warren, E. S. Brannon, E. A. Stead Jr. and A. J. Merrill.—p. 337.
Importance of Compensating Vasoconstriction in Unanesthetized Areas in Maintenance of Blood Pressure During Spinal Anesthesia. C. Neumann, A. D. Foster Jr. and E. A. Rovenstine.—p. 345.
*Relationship Between Concentration of Sulfamerazine in Body Fluids and Response in Treatment of Meningococcic Meningitis. J. G. Reinhold, H. F. Flippin, J. J. Zimmerman, W. I. Gefter and J. G. Riddler.—p. 352.
Complement Fixation in Human Malaria Using Antigen Prepared from Chicken Parasite Plasmodium Gallinaceum. S. W. Lippincott, H. H. Gordon, W. B. Hesselbrock and A. Marble.—p. 362.
Studies on Quantitative Evaluation of Certain Treatments in Healing of Experimental Third Degree Burns. C. M. Rhode, M. F. Morales and E. L. Lozner.—p. 372.
Effect of Amino Acids on Serum and Urine Creatine. C. M. Grossman. —p. 380.
Comparison of Diuretic Action of Sodium Dehydrocholate and Mercupurin in Man. W. Modell and H. Gold.—p. 384.
Renal Clearances of Substituted Hippuric Acid Derivatives and Other Aromatic Acids in Dog and Man. H. W. Smith, Norma Finkelstein, Lucy Aliminosa, Betty Crawford and Martha Graber.—p. 388.

Penicillin in Subacute Bacterial Endocarditis.—Bloomfield and his associates administered penicillin alone to 11 patients with subacute bacterial endocarditis. These patients had positive blood cultures; their strains of nonhemolytic streptococci were sensitive to penicillin in the test tube; their condition was not desperate and they agreed to stay in the hospital for from six to eight weeks. They were given from 200,000 to 300,000 units in twenty-four hours by continuous intravenous drip for three weeks and thereafter 120,000 to 200,000 units per day in eight intramuscular injections (5,000 units per cubic centimeter of isotonic solution of sodium chloride) for three to five weeks. Most of the patients were treated for eight weeks without interruption. All patients were promptly made "bacteria free" except 1 who died early in the course of treatment. Eight were clinically cured of the infection after follow-up periods up to six months. One patient, apparently cured of the infection, died of cardiac failure. Cocci were seen in the depths of a scarred mitral valve. There were no clinical relapses or reinfections. Petechiae and emboli continued for some time after the blood cultures were negative. Renal lesions as evidenced by studies of urinary sediment were not as a rule completely eliminated by the treatment.

Sulfamerazine in Meningococcic Meningitis.—Reinhold and his associates evaluate the response of patients suffering from meningococcic meningitis to treatment with sulfamerazine, with particular reference to the concentration of this substance in body fluids. The comparative significance of drug concentrations in plasma, plasma ultrafiltrate and cerebrospinal fluid also has been examined together with the distribution of sulfamerazine between these fluids. The results of treatment of meningococcic meningitis with sulfamerazine were studied in 188 patients at the Philadelphia General Hospital. It was found that the concentration of sulfamerazine in cerebrospinal fluid is approximately 80 per cent of that of an ultrafiltrate of plasma and is closely dependent on the same factors governing the concentration of the drug in the ultrafiltrate, i. e. concentrations of drug and protein in plasma, and composition of the protein. In meningococcic meningitis higher concentrations of sulfamerazine in body fluids were associated with more rapid return of body temperatures to normal, more rapid disappearance of meningitic irritation and more rapid decrease in cerebrospinal fluid protein concentrations than were lower concentrations. For each milligram of increase in plasma sulfamerazine concentration the average response was shortened by one day. The results suggest that the dosage in common use is suboptimal and that further trials with therapeutic concentrations in blood serum above 20 mg. per hundred cubic centimeters are needed. Determinations of concentrations of sulfamerazine in cerebrospinal fluid or plasma ultrafiltrates offer no advantage in evaluation of therapeutic response in meningococcic meningitis over such determinations in plasma. Certain toxic manifestations (drug fever) of sulfamerazine appear to be more frequent at higher concentrations of drug in plasma. Others (rash, hematuria) showed no such relationship. The incidence of toxic manifestations increased appreciably after one week of treatment, reaching a maximum about ten days after treatment was started.

Kentucky Medical Journal, Bowling Green

43:151-170 (June) 1945

Arthritis, a Challenge to the Profession. G. S. Buttorff.—p. 153.
Some New Biologic Preparations. D. M. Griswold.—p. 156.
Rupture of Uterus: Report of Case. H. H. Caffee.—p. 158.
Errors in Diagnosis of Acute Appendicitis. G. Y. Graves.—p. 159.
Am I Sick or Just Discarded? A. M. Lyon.—p. 163.
Preventing Postlumbar Puncture Headache. A. C. McCarty.—p. 165.

43:171-196 (July) 1945

Cardiovascular Diseases. W. D. Stroud.—p. 174.
Undulant Fever: Medical and Epidemiologic Aspects. C. G. Baker. —p. 179.
Congestive Heart Failure. B. H. Hollis.—p. 183.
Psychosomatic Medicine. H. M. Janney.—p. 185.

Missouri State Medical Assn. Journal, St. Louis

42:319-388 (June) 1945

For Acquired Hemolytic Icterus Nontraumatic Emergency Splenectomy. B. W. Klippel and G. O. Broun.—p. 333.
Amyloid Disease of Kidney. L. J. Wade, K. R. Schlademan and F. U. Steinberg.—p. 335.
Missouri Medicine Aims Rehabilitation of Indigent Physically Impaired. T. W. Parry.—p. 348.
Medical Producers' Cooperative. S. W. Insley.—p. 352.

42:389-458 (July) 1945

Clinical Experiences with Thiouracil. R. O. Muether, W. C. MacDonald, L. Goldberg and J. T. Van Bruggen.—p. 405.
Relapsing Febrile Nodular Nonsuppurative Panniculitis, with Report of Case. G. Ives.—p. 409.
High Frequency Currents in Surgery. C. H. Shutt.—p. 410.

New England Journal of Medicine, Boston

232:719-746 (June 21) 1945

Terminal Care in Cancer: Study of 200 Patients Attending Boston Clinics. Ruth Abrams, Gertrude Jameson, Mary Poehlman and Sylvia Snyder.—p. 719.
Care of Patient. E. E. Kattwinkel.—p. 724.
Skin Tests in Bacterial and Viral Diseases. L. W. Kane.—p. 728.
Quartan Malaria, W. Dameshek.—p. 735.
Acute Bacterial Endocarditis, Posterior Aspect of Mitral Valve, with Perforation into Right Auricle (Type 13 Pneumococcus). R. Harwood. —p. 739.

232:747-776 (June 28) 1945

*Treatment of Pneumococcic Pneumonia with Penicillin. M. Meads, H. W. Harris and M. Finland with technical assistance of Clare Wilcox.—p. 747.
*Listerellosis. M. M. Kaplan.—p. 755.
Skin Tests in Bacterial and Viral Diseases. L. W. Kane.—p. 760.
Hygroma Colli Cysticum. N. B. Talbot.—p. 766.
Bleeding Peptic Ulcer: Coronary Thrombosis, Recent and Old. D. Hurwitz.—p. 769.

Penicillin in Pneumococcic Pneumonia.—Meads and his associates report the results of treatment with penicillin in a series of 54 cases of pneumococcic pneumonia. Penicillin was used alone in 37 of these cases, whereas in the remaining 17 cases it was given only after sulfonamide drugs had either failed to bring about a satisfactory response or produced untoward effects. Intermittent intramuscular administration of penicillin was the most feasible method and was generally used. Most of the patients with moderately severe symptoms were given from two to six injections of 15,000 units every two hours, and then the same amount was given every three hours until there was clinical improvement and the temperature had remained below 100 F. for twelve hours. Additional doses of 10,000 units each were then given every three hours for another two or three days. In the severe cases the same general scheme of dosage was used except that a single dose of 5,000 or 10,000 units was given intravenously in some cases at the time of the first intramuscular injection and from six to twelve injections of 15,000 units were given at two hour intervals. The average total dose varied between 317,000 and 735,000 units. Bacteremia cleared rapidly. Fever and acute symptoms subsided in most cases within twenty-four to forty-eight hours. Subjective improvement often preceded the drop in temperature. There were ten deaths. Seven of these were of patients who were moribund at the time treatment was begun; the other three deaths were associated with severe complicating conditions. Purulent complications did not develop following penicillin therapy. Penicillin was equally effective in cases in which it was used alone and in those which had previously failed to respond to sulfonamides.

Listerellosis.—According to Kaplan listerellosis is a sporadic, infectious disease occurring naturally in man and in animals, including cattle, sheep, goats, swine, foxes, chickens, rabbits, guinea pigs, gerbils and rats. The causative organism, Listerella monocytogenes, was first submitted as a new species (Bacterium monocytogenes) in 1924 by Murray, Webb and Swann, who isolated it from an epizootic affecting their laboratory rabbits and guinea pigs. In 1929 Nyfeldt recovered the organism from the blood stream of a youth aged 17 with infectious mononucleosis. It is highly probable that the diphtheroid organisms isolated from cases of meningitis in 1915 by Atkinson and in 1919 by Dick were Listerella. There have been reported in the literature 23 definitely diagnosed and 13 probable cases of human listerellosis. In its typical meningeal form the disease had a mortality of approximately 79 per cent. The natural habitat and port of entry of Listerella monocytogenes —other than transplacental infection in the newborn—are unknown. The nasal and gastrointestinal tracts appear as the likeliest routes of penetration. The facts that infection of the newborn can occur with no effect on the parent, that a Listerella bacteremia may be present in cases of infectious mononucleosis and that certain predisposing factors apparently produce active infection suggest that latent carriers play a significant role in the pathogenesis of listerellosis. At present there is little evidence to incriminate animals as direct transmitting agents of Listerella monocytogenes to human beings. The widespread prevalence of listerellosis in animals establishes them as possible reservoirs of infection for man. It is believed that the organism acts as a contingent invader in infectious mononucleosis rather than as an incitant of the disease. Circumstantial evidence is cited supporting the possibility of interhuman communicability in active cases of listerellosis, thus making advisable the practice of communicable disease precautions whenever this disease is encountered. Clinically and at necropsy listerellosis is characterized by a meningoencephalitic syndrome. The most usual spinal fluid changes were increased pressure, globulin and leukocytes. A moderate neurocytosis occurred early in the disease. Treatment with sulfonamides appears to have been successful.

New Orleans Medical and Surgical Journal

97:521-570 (June) 1945

Special Aspects of Prenatal Care. W. E. Levy.—p. 521.
Ovarian Arrhenoblastomata. C. G. Johnson.—p. 526.
Diagnosis and Treatment of Some Common Medical Emergencies. M. Saunders.—p. 531.

Pennsylvania Medical Journal, Harrisburg

48:881-1008 (June) 1945

Use and Practical Application of Rh Test. L. F. Ritmiller, J. E. Gleichert and R. E. Nicodemus.—p. 897.
Significance of Psychosomatic Medicine. E. E. Mayer.—p. 900.
Fourteen Years of Obstetrics at Community Hospital. C. A. Behney, J. L. Richards and J. Y. Howson.—p. 906.
Report of Second Statewide Survey of Acute Appendicitis Mortality. J. O. Bower. —p. 911.
Renal Colic. J. F. McCahey.—p. 937.

Tennessee State Medical Assn. Journal, Nashville

38:203-238 (July) 1945

Diagnosis of Extrauterine Pregnancy. L. E. Burch.—p. 203.
*Landry's Paralysis Following Antirabies Vaccine, with Suggestions as to Treatment. C. R. Thomas.—p. 209.
Sinusitis as Cause of Chronic Cough in Children. J. R. Bowman.—p. 215.

Landry's Paralysis Following Antirabies Vaccine.—Simple abrasions and scratches should be cleansed with soap and water, iodine and alcohol or with mercury bichloride. Cauterization is ineffective unless used within an hour after injury, and then it destroys only the virus remaining on the surface. The use of the cautery does not lessen the mortality but is thought to prolong the incubation period and for this reason is considered to be of value. Pure phenol destroys virus rapidly. Vaccine should be given following a bite if the animal dies or develops rabies within ten days; also if it disappears or is a stray. Because of the extremely short period of incubation in injury of the face, lips, head and hands, and in deep multiple lacerations, it is advisable to give vaccine immediately and in large amounts. It has been estimated that about 3 in 10,000 patients receiving this treatment develop some sort of paralysis. The commonest form of paralysis, except the very mild ones, is one which resembles the ascending type described by Landry. The author observed this type of paralysis in a man who stated that after the second injection of rabies vaccine he felt "hot all over," but he had no other symptoms until after the last injection, when paralysis was rapidly progressing, so that within three days he was unable to move his hands or feet, and in four days the arms and legs could not be moved nor could he raise his head. There was some muscle soreness in both upper and lower extremities but otherwise no sensory changes. He was admitted to the hospital. Hot compresses were applied and vitamins E and B_1 were given. From 100 to 300 mg. of thiamine was given daily, both the oral and intravenous routes being used. Wheat germ oil was given orally for the first three weeks. For about three weeks the case seemed hopeless. The patient began to be able to detect a little movement in the big toe on the right and then the muscles of his neck became stronger, then the muscles of his back, and after eight or nine weeks he was able to sit alone. He was given daily hydrotherapy treatment, massages and so on for about two months. His progress has been slow but steady. He can now walk without crutches and can hold light things in his hands. At present he is taking 30 mg. of thiamine daily and swimming three or four times a week. In the past month he has been able to take a light job. Perhaps he is one of a group who would have got well eventually, regardless of what was done, even though he was getting steadily worse until treatment was instituted.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

67:273-360 (Dec.) 1944

Denervation and Reinnervation of Human Voluntary Muscle. R. E. M. Bowden and E. Gutmann.—p. 273.
*Electrical Diagnosis of Peripheral Nerve Injury. A. E. Ritchie. —p. 314.
Disorders of Visual Space Perception Associated with Lesions of Right Cerebral Hemisphere. A. Paterson and O. L. Zangwill.—p. 331.

Electrical Diagnosis of Peripheral Nerve Injury.—Ritchie describes measurements carried out in patients with nerve injuries. Four sets of measurements were recorded from each case. These were (1) the strength-duration relationship of threshold electrical stimuli (which include chronaxia figures), (2) the condenser capacities necessary for excitation in the technic of Cluzet (1905) and of Lewis Jones (1912), (3) the accommodation constants of the muscle during regeneration, as measured by progressive currents, and (4) the thresholds of excitability of the nerve-muscle complex to alternating currents of varying frequency. Characteristic quantitative differences are observed in the excitability of normal and of denervated muscle; during reinnervation intermediate values are detectable. Improvement of excitability appears a short time before the earliest sign of recovery detectable by purely clinical means, and this effect is of value in prognosis. The differences in absolute value of strength-duration figures obtained by different methods make the current-voltage relationships in living tissues of great importance in quantitative stimulation measurements; on account of the reactance of the tissues, stimuli of definite shape applied at the electrodes give rise to very different potential gradients across the actual excitable region.

British Journal of Radiology, London

18:167-198 (June) 1945

Familial Brachydactyly. J. F. Brailsford.—p. 167.
Resistance to Tumor Grafts Produced by Cell Free Tumor Extract. S. Russ and G. M. Scott.—p. 173.
Primarily Radiologic Lesions Found in Traumatic Chest Cases: II. Missile Tracks and Extrapleural Hematomata. J. C. Hodson.—p. 176.
Soft Tissue Calcification Secondary to Therapeutic Quinine Injection. J. S. Brown.—p. 183.
Development of Stereoscopic Photography and Radiography. L. P. Dudley.—p. 185.
Calcification and Ossification in Renal Carcinoma. A. K. Wilson and A. E. Connolly.—p. 193.
Self-Contained Electroscope Charger. R. G. Mitchell.—p. 195.
Basal Cell Carcinoma of the Dorsum of the Hand: Report of Case. D. W. Smithers and W. D. Jenkins.—p. 197.

British Medical Journal, London

1:723-758 (May 26) 1945

Integration of Medicine. F. M. R. Walshe.—p. 723.
Difference Between Sexes in Dispersion of Intelligence. J. A. F. Roberts.—p. 727.
Observations on Ligature of Patent Ductus Arteriosus. J. B. Hunter. —p. 731.
Psychotic Battle Casualties. E. K. Mulinder.—p. 733.
Acute Intestinal Obstruction Due to Dried Fruit: Report of 2 Cases. A. Lyall.—p. 734.
Epidemic Outlook in Europe. K. Stowman.—p. 742.

Edinburgh Medical Journal

52:145-192 (May) 1945

Recent Developments in Treatment of Pulmonary Tuberculosis. R. Y. Keers.—p. 145.
Further Experiments in Study of Immersion Foot. W. Blackwood and H. Russell.—p. 160.
*Low Blood Pressure. J. G. M. Hamilton.—p. 166.
Diagnosis and Description of Cancer. W. F. Harvey.—p. 181.

Low Blood Pressure.—Hamilton says that 90 mm. should be regarded as the lower limit of normal rather than the more commonly accepted figure of 110 mm. Systolic blood pressure in the range 90 to 110 mm. is frequently found in normal persons at all ages and is compatible with long life, good health and a high degree of physical efficiency. Adults possessing blood pressures in this range are unlikely to develop essential hypertension. Poor vasomotor control and systolic blood pressure of 90 to 110 mm. do not necessarily occur together. The symptoms of persistent fatigue, dizziness and fainting attacks are not due to persistent hypotension, being frequently found in association with "normal" or elevated blood pressure. These symptoms are frequently due to psychoneurosis. He examined records of 53 patients whose predominant complaints were prolonged fatigue, lassitude, fainting turns, "blackouts," dyspnea and dyspepsia in explanation of which no organic lesion could be demonstrated and of which emotional disturbance was held to be the cause. Six had systolic blood pressures of 110 mm. or less; 13 had diastolic pressures of 70 mm. or less; 11 had diastolic pressures of 90 to 105 mm. With certain exceptions such as coronary thrombosis, paroxysmal tachycardia, cardiac tamponade and aortic stenosis, hypertension is not an expression of heart disease. Attempts to raise the blood pressure are usually unavailing and misguided as far as relieving the symptoms is concerned. When symptomatic benefit occurs, it is usually temporary. In view of the normal day to day fluctuations in blood pressure an increase of 5 to 10 mm. in the systolic pressure, sometimes hailed with joy as indicating successful therapy, cannot be regarded as of any significance. It is notable in psychoneurotic patients with blood pressure of 90 to 110 mm. that, at such times as the anxiety or other underlying emotional disturbance is less evident, not only are the general symptoms relieved but the blood pressure reading may be somewhat higher. Conversely, when the emotional disturbance again becomes prominent, the blood pressure may gradually fall to the lower levels. Postural or orthostatic hypotension is characterized by the occurrence of faintness or loss of consciousness on rising from the recumbent to the erect posture. Bradbury and Eggleston first described this disorder and gave details of 3 cases in which the blood pressures fell sharply from normal or elevated levels in the recumbent position to pressures of the order of 40 to 50 mm. systolic and 25 to 40 mm. diastolic in the erect position with loss of consciousness. It is usually considered that postural hypotension is due to a failure of splanchnic vasoconstriction to offset the gravitational effects of the assumption of the erect posture.

Lancet, London

1:615-646 (May 19) 1945

Surgery of Persistent Ductus Arteriosus. T. H. Sellors.—p. 615.
Effects of Alcohol and Sodium Amytal on Intelligence Test Score. W. Sargant, P. Slater, H. Halstead and Margaret Glen.—p. 617.
Treatment of Battle Casualties: Two Stage Operation. R. W. Hendry, W. C. Gledhill and B. H. Price.—p. 618.
Treatment of Battle Casualties: Two Stage Operation. A. C. Turner, A. A. Murray and G. A. Fowler.—p. 621.
Treatment of Battle Casualties: Second Stage in Two Stage Operation. H. J. B. Atkins and B. Holden.—p. 622.
Compound Fracture of Femur: Two Stage Operation. R. J. B. McEwen, J. G. Bickerton and M. F. Pilcher.—p. 623.
Delayed and Secondary Suture of War Wounds. D. Rhatia.—p. 624.
Primary Closure of Battle Wounds of Face. R. Lawrie.—p. 625.
Conjunctival Hemorrhage After Bismuth Injection. L. Cohen.—p. 627.

1:647-678 (May 26) 1945

Typing of Staphylococci by Bacteriophage Method. G. S. Wilson and J. D. Atkinson.—p. 647.
Treatment of Acute Conjunctivitis and Trachoma with Sulfonamides. B. Miterstein and H. J. Stern.—p. 649.
*Penicillin by Inhalation. N. Mutch and R. E. Rewell.—p. 650.
*Bactericidal and Bacteriolytic Action of Penicillin on Staphylococcus. E. Chain and E. S. Duthie, with technical assistance of D. Callow. —p. 652.
Microscopic Effect of Penicillin on Spores and Vegetative Cells of Bacilli. A. D. Gardner.—p. 658.
Metal Anastomosis Tubes in Tendon Suture. G. K. McKee.—p. 659.
Spontaneous Pneumothorax and Staphylococcal Empyema in an Infant of 18 Days. Elizabeth Lund.—p. 661.

Penicillin by Inhalation.—In their experiments with the inhalation of penicillin Mutch and Rewell adopted the method of administration which had been standardized for sulfonamides. Mists were produced by a nebulizer actuated by oxygen pressure and delivered along wide streamlined conduits to a closely fitting nose piece detached from an oxygen unit. The subject was instructed to breathe out through the mouth, the lips serving as an outlet valve. The objective was to secure maximum deposition of mist on the respiratory mucous surfaces. Five healthy young men were selected for the survey. A preliminary trial was made in each case with the easily visible mist formed from 2 per cent glycerin in water and the rate of oxygen flow

was adjusted to the person's minimal requirements. The penicillin solution was then switched in to replace the glycerin for thirty minutes. Samples of blood and urine were collected and the penicillin contents estimated. The strength of the residual solution left in the nebulizer was also estimated to ascertain whether half an hour's intimate exposure to pure oxygen at a temperature a little above zero had caused undesirable destruction of the drug. The volume of solution nebulized varied from 2 to 4.1 cc. It was found that calcium penicillin administered as a mist is rapidly absorbed through the respiratory mucous membrane. Highly bacteriostatic titers can be established in the blood in this way. The wastage of materials involved is 60 to 75 per cent, but the high values obtained in blood and urine encourage the hope that weaker solutions than those employed in this preliminary assay—e. g., 5,000 units per cubic centimeter or even less—could be used economically and successfully for the local treatment of infections of the respiratory mucosa and immediately adjacent tissues, such as purulent bronchitis and bronchiectasis and as a prophylactic against secondary pyococcic infections in influenza.

Action of Penicillin on Staphylococci.—Chain and Duthie attempted to demonstrate the bactericidal action of penicillin manometrically by its effect on the oxygen uptake of growing staphylococcus cultures. The manometric measurements were complemented by photoelectric turbidity measurements, hemocytometer counts and viability counts. It was found that during the "resting" phase even larger concentrations of penicillin have no effect on the oxygen uptake. During the early lag phase and the logarithmic phase of multiplication penicillin exerts a strong inhibitory effect on and eventually completely stops the oxygen uptake of the suspensions in very small concentrations (0.04 to 0.1 unit per cubic centimeter). The effect is not immediate but sets in after an induction period. Hemocytometer and viability counts, run parallel with the measurement of oxygen uptake, show that penicillin has a strong bactericidal effect on staphylococcus suspensions in the early lag phase and the logarithmic phase of multiplication but no measurable bactericidal effect during the resting phase. The observation of Hobby, Meyer and Chaffee that penicillin kills bacteria in nutrient mediums but has no bactericidal action on resting bacteria has thus been fully confirmed. When penicillin is added to a suspension of 200 million staphylococci per cubic centimeter in a nutrient medium during the early lag phase the turbidity increases about twofold during the first hour of the incubation but the total number of organisms remains constant. The increase of turbidity under these conditions is attributed to swelling of the organisms. Penicillin is capable of exerting a bactericidal effect on the staphylococcus before actual cell division has occurred. On the other hand, staphylococcus suspensions can go through at least one division in the presence of penicillin when it is added during the logarithmic phase of multiplication. Penicillin appears to interfere with a metabolic function in the early stages of bacterial development. Helvolic acid, the bacteriostatic antibiotic, antagonizes the bacteriostatic and bacteriolytic effects of penicillin on the staphylococcus. Sulfanilamide and sulfamezathine, which do not prevent the occurrence of at least several cell divisions, have no antagonistic action on the bactericidal effect of penicillin on the staphylococcus (and the streptococcus) but have, on the contrary, a synergistic effect. This effect is strong with naturally occurring penicillin resistant strains of staphylococci.

Medical Journal of Australia, Sydney

1:449-472 (May 5) 1945

Milk and Public Health. A. R. Southwood.—p. 454.
High Nutritive Value of Skim Milk. R. C. Hutchinson.—p. 457.

1:473-504 (May 12) 1945

*Rat Leprosy: Observations and Transmission. J. W. Fielding.—p. 473.
*Infiltration with "Monacrin" (5-Aminoacridine Hydrochloride) as Alternative to Excision in Treatment of Contaminated Wounds. F. Arden.—p. 486.

Rat Leprosy.—According to Fielding the geographic distribution of leprosy in rodent species is spreading. In New South Wales it has been detected in 2 specimens of Mus musculus and in 3 of Rattus norvegicus. The distribution of the leprosy organisms in the body of infested animals is found to be the more generalized the more thorough the search. The author noted involvement of the stomach, pylorus, duodenum, sternum, pericardium, brain and bulbourethral and preputial glands. The lepra cells associated with the superficial lesions of the rat are considered to arise from the polymorphonuclear leukocytes, the nuclear structure of which is particularly or completely destroyed as the invading organisms increase in number. The virulence is much greater in the organisms from feces, urine and primary ulcers than in those from granulomas and old ulcers. It is suggested that by the passage of organisms from granulomas and old ulcers through guinea pigs and rabbits the virulence may be considerably built up. By superinfection at regular intervals with the virulent type of organisms, resistance may be broken down; however, superinfection with less virulent organisms tends to build up an immunity which eventually may destroy all signs of infection. Primary lesions of a temporary character are produced by subcutaneous injection of emulsions containing rat leprosy organisms. Lesions of a permanent character and primary in origin may be produced by repeated inunction with virulent organisms. Glandular infection is an early manifestation of the disease and may result from a single invasion of the organism through the skin. The musculocutaneous disease is a product of superinfection with more virulent organisms, producing lesions and intracellular organisms which are permanent features resulting in generalized infections. Even after organisms have been dry for twelve to eighteen months in the feces, infection may still be produced. Infection of rats has been effected by hookworm larvae, by feeding the lice and by inoculation and inunction of emulsions of ectoparasites. From the experience described, the early appearance of typical clinical lesions and the intracellularity of the organisms appear to settle the question of specificity of the acid fast organisms for leprosy.

Study of Infiltration with 5-Aminoacridine Hydrochloride Instead of Excision.—Arden studied accident cases at the Brisbane Children's Hospital to determine the efficacy of infiltration with 5-aminoacridine hydrochloride in preventing infection in contaminated wounds. After the patient was anesthetized, gauze swabs soaked in a 1:1,000 solution of 5-aminoacridine hydrochloride (in 0.45 per cent solution of sodium chloride) were placed in the wound while the surrounding skin was cleansed with a solution of zephiran concentrate. The wound was cleansed with the aforementioned gauze swabs. Fragments of tissue that had become separated from their blood supply were detached, but tissue which was merely bruised or lacerated was not removed and no general excision was undertaken. The margins and floor of the wound were then carefully infiltrated with the 1:1,000 solution of 5-aminoacridine hydrochloride. This preparation is a powerful bacteriostatic agent capable of inhibiting the growth of a wide variety of pathogenic organisms. A series of injections was made beneath the skin around the perimeter of the wound, about 1 centimeter apart. The subcutaneous tissues, muscles and other structures were then infiltrated in turn. In cases of compound fractures, solution was injected between the fractured ends. The wound was then closed in layers. The amount of solution varied between 1 and 30 cc. in the reported series of 16 cases. One pyocyaneus infection developed; in 3 cases some aseptic necrosis of the skin resulted from the nature of the accident. The remaining 11 healed by first intention.

Annales de Dermatologie et de Syphiligraphie, Paris

5:1-56 (Jan.-Feb.) 1945

*Hereditary Polyfibromatosis. A. Touraine and H. Ruel.—p. 1.
Criterions and Frontiers of Schaumann's Disease. M. F. Coste.—p. 6.
Visceral Manifestations of Herpes Zoster. R. B. Duperrat.—p. 18.
Bioelectric Phenomena of Skin. A. Denier.—p. 23.
Blastomycosis of Gilchrist. J. Watrin, P. Jeandidier, J. Michon and Seyot.—p. 26.

Hereditary Polyfibromatosis.—Touraine and Ruel apply the term hereditary polyfibromatosis to a hereditary constitutional condition in which the patients have a tendency to form nodular fibrous infiltrations, often multiple, in various parts of the body. This concept is not new, since Janssen in 1902

grouped under the term "fibroplastic diathesis" Dupuytren's contracture, induration of the corpora cavernosa, keloids, gout and arthritis deformans. Numerous more recent observations permit the enlargement of this picture and the incorporation in it of a long series of connective tissue hyperplasias and also the introduction of the role of heredity. The clinical characteristics of polyfibromatosis are the slow, progressive, insidious development, without apparent cause, of painless nodules of firm and hard consistency. Anatomically, polyfibromatosis is a fibrous hyperplasia of the connective tissue in the form of nodules, without enveloping capsule, formed of bundles of thick collagenic fibers. There may be local calcium deposits in the fibroid tissue. While the pathogenesis remains obscure, it seems that the process is one of progressive involution of the connective tissue toward sclerosis in the more general framework of abiotrophy. The genetic characteristics are those of simple, dominant heredity, with slight predominance for the male sex. The authors point out that polyfibromatosis is a new example of "polyphenic" heredity; that is, there are "ensembles" of fibrous hyperplasias the elements of which are transmitted either in identical sites, in different sites or in groupings. After classifying the fibromatoses into the peripheral, skeletal, visceral, vascular and metabolic forms, the authors discuss the grouping of the fibromatous conditions. They found 140 cases of such groupings. Dupuytren's contracture is often associated with the simultaneous retraction of the plantar and palmar aponeuroses or with induration of the corpora cavernosa. The association of the latter condition with Dupuytren's disease was found 30 times in the 140 cases. Aside from its combination with Dupuytren's contracture, induration of the corpora cavernosa has been found associated with keloids, fibromas of the fingers, osteopoikilosis, hypercalcemia and the like. Numerous other groupings of fibromatous conditions are cited.

Gynécologie et Obstétrique, Paris

44:125-184 (No. 7) 1944

Interventions Required in Delivery of Twins. L. Portes and Granjon.—p. 133.
Uterine Chronaximetry. P. Chauchard.—p. 145.
*Passage of Antisyphilitic Drugs Through Placenta. A. Patoir, H. Bédrine, Poiteau and Biserte.—p. 153.
First Results of Treatment of Metritis of Uterine Body by Intrauterine Injection of Paste of Fontamide (Aminobenzene Sulfamidothiourea). J. Boudreaux and J. Savouret.—p. 158.
Plastic Operation of Ureter or Implantation. B. S. Ten Berge.—p. 162.

Placental Transmission of Antisyphilitic Drugs.—Patoir and his co-workers found that bismuth and arsenic pass the placental barrier simultaneously. They conclude from this that it is artificial to differentiate a preconceptional and a postconceptional antisyphilitic drug. Bismuth and arsenic pass the chorionic membrane under the same conditions; in giving one or the other or both, a good impregnation is secured and the embryo is protected as much as possible.

Arch. d. Hosp. de Niños R. del Río, Santiago

12:123-211 (Dec.) 1944. **Partial Index**

Pulmonary Tuberculosis in School Children. M. Neira Salgado.—p. 123.
*Vaginal Smears of Newborn Infants. A. Guzmán and J. P. Franco.—p. 159.

Vaginal Smears of Newborn Infants.—Guzmán and Franco observed in 200 vaginal smears of newborn infants and in cadavers of newborn infants that the cytology of the vaginal mucosa resembles that of adult normal women in the premenstrual days. The smears show cells of the superficial and intermedian layers of the epithelium in a proportion of 20 of the former for each 5 of the latter. Cells of the deep layer of the epithelium, leukocytes and Döderlein bacilli do not appear in the smears for the first two weeks of life. The number of cells of the superficial layer of the epithelium progressively diminishes during the first week of life. The cells disappear after the twelfth day. A hyperestrogenic vaginal smear of the type of a pregnant woman was seen by the authors only in the vaginal smears of the cadaver of an infant with erythroblastosis fetalis. Smears of infants show atrophy of the vaginal epithelium from the second week of life up to puberty. When vaginal smears of little girls and adolescents are of the type of normal adult women, they suggest either a hormonal pathologic condition or the effect of the administration of estrogens, as is the case when girls are given estrogenic substance for gonorrheal vulvovaginitis.

Revista Chilena de Pediatría, Santiago

16:177-256 (March) 1945. Partial Index

Poliomyelitis in Quito: First Epidemic Outbreak. C. Andrade Marin.—p. 177.
*Rat Bite Fever: Case. E. Cienfuegos and R. Montero S.—p. 186.

Rat Bite Fever.—Cienfuegos and Montero S. report that a normal infant at the age of 1 month was bitten by a black rat. The wound bled profusely. Iodine was applied to the wound three hours later. The infant showed symptoms of an acute infection, rigidity of the neck and profuse sweating eighteen hours later. The symptoms which followed were typical of Haverhill fever (epidemic erythema arthriticum). Streptococcus moniliformis was identified from the pus of an abscess which developed in the course of the disease. Sulfathiazole was ineffective. Repeated blood transfusions, vitamins and acetarsone (paroxil) in doses of 0.03 Gm. for each kilogram of body weight constituted the treatment. X-ray examinations of the limbs showed acute osteochondritis and periostitis, which are presumably responsible for the arthritic symptoms and which parallel the course of the fever. Complete recalcification of the epiphyses of the bones gradually takes place after subsidence of fever.

Semana Médica, Buenos Aires

52:791-829 (May 10) 1945. **Partial Index**

*Pernicious Anemia in Senile Age. C. R. Agustoni and A. L. Sansusti.—p. 799.
Penicillin in Gonorrhea: Cases in Santiago del Estero. L. G. Cortigiani.—p. 802.

Pernicious Anemia in the Aged.—Agustoni and Sansusti direct attention to the importance of pernicious anemia in the aged for the diagnosis and early therapy. The subjects of the authors' report were 3 women between the ages of 82 and 87 years. The early symptoms in all were the appearance of moderate pallor, lack of appetite, gastrointestinal disorders, acute edema about the ankles, depression or delirium. The hemogram was typical of pernicious anemia in all cases. The therapy consisted of liver extract in large doses and of hydrochloric acid. All patients recovered. The mental disorders were permanently controlled.

Acta Chirurgica Scandinavica, Stockholm

90:275-382 (Oct.) 1944. **Partial Index**

Surgical Care for Gunshot Wounds of Brain. W. Tönnis.—p. 275.
Operative Therapy and Prognosis in Fracture of Patella. E. Moberg.—p. 295.
"Bone Chip" Grafts in Defects in Long Bones: Study on Transplantation of Bone Chips from Compact and Spongy Substance in Defects in Long Bones and Role of Periosteum and Endosteum in Bone Grafts from Compact Substance. A. Hellstadius.—p. 317.
*Surgical Treatment of Acute Hepatitis (So-Called Catarrhal Icterus). E. Bergenfeldt.—p. 329.
Pyelonephritis Xanthomatosa. S. Osterlind.—p. 369.

Surgical Treatment of Acute Hepatitis.—Bergenfeldt describes 4 cases of acute hepatitis in which jaundice had persisted for seven months, two months, six weeks and five weeks respectively. Jaundice disappeared and the patients recovered rapidly after operation, which consisted in perfusion of the biliary passages with contrast medium and in 1 case with isotonic solution of sodium chloride as well. Bergenfeldt thinks that operation is indicated for patients with uncertain diagnosis, in whom biliary obstruction cannot be ruled out and for patients with hepatitis and severe icterus which does not diminish within a reasonable time and when there is danger of acute yellow atrophy and cirrhosis of the liver. Active surgical therapy can save a number of these patients. Perfusion of the biliary passages in the form of cholangiography should be tried first, because this must be done anyway to confirm the diagnosis. If this does not have the desired effect, a fistula can be made into the gallbladder.

Book Notices

Mass Radiography of the Chest. By Herman E. Hilleboe, M.D., Medical Director, Chief, Tuberculosis Control Division, United States Public Health Service, and Russell H. Morgan, M.D., Surgeon (R), Medical Officer-in-Charge, Radiology Section, Tuberculosis Control Division, United States Public Health Service. Cloth. Price, $3.50. Pp. 288, with 93 illustrations. Chicago: Year Book Publishers, Inc., 1945.

Several books have been published on mass radiography in other nations, such as "Mass Miniature Radiography" by Trail and others, published by J. and A. Churchill Ltd., London, 1943, and "Mass Miniature Radiography of Civilians" by Clark and others, published by His Majesty's Stationery Office, London, 1945. However, this is the first book to be published on the subject in the United States. It is indeed fortunate that this first volume was written by physicians who have had wide experience in tuberculosis work and in the fundamentals of radiography, since at this particular time the value of the x-rays in the diagnosis of tuberculosis is greatly exaggerated, even to the point of making final diagnoses with no evidence whatever except shadows seen on x-ray films.

The limitations of the x-rays are numerous in the diagnosis of chest diseases. Therefore the public and even the medical profession could have been led far astray had such a book been prepared by authors not well grounded in all phases of diseases of the chest and the fundamentals of x-rays. The great importance of the inclusion of x-ray inspection as a part of every examination of the chest has been emphasized in several quarters since the first world war. However, students of chest diseases have not recommended that any examination of the chest be limited to x-ray inspection or that any examination for tuberculosis be limited to the chest. Therefore Hilleboe and Morgan have not confined their book to x-ray inspection, as one might infer from its title.

Although the bulk of the book is devoted to such subjects as history of mass radiography, equipment available for mass radiography, phototimers and automatic cameras, physical factors affecting the choice of equipment, designs for mass radiographic installations, roentgen technic in mass radiography and the future development of mass radiography, there are excellent chapters on such subjects as objectives of tuberculosis control and the study and care of persons with abnormal films.

In a chapter on diagnosis the authors state that x-ray inspections constitute diagnostic screening procedures by which the abnormal are separated from the normal. Obviously this applies only when macroscopic (pathologically gross) lesions are present and are of sufficient density to absorb x-rays. Lesions of smaller size and less density cast no visible shadows. The authors point out that in many cases it is quite impossible to identify the various diseases of the chest which cast shadows. They rightly state that this should not be cause for concern, for "if an x-ray examination does nothing more than indicate the presence of a pathological process it has made a worth while contribution, especially if the process is unsuspected." If every physician would recognize this fact and so use the x-rays, this phase of the examination would serve a much more useful purpose than has been true in many instances in the past. The authors call attention to the fact that, once the presence of disease is detected by the shadow it casts, its etiology usually can be determined by other methods.

A fine array, in fact more than forty x-ray reproductions, is presented. In some of them diagnostic impressions are given without much other evidence than the shadows, but in the majority the actual diagnosis is given when other more exact evidence was available, such as recovery of specific organisms, a study of biopsy material, history of exposure to hazardous dust, presence of tuberculin reaction and postmortem examination. These reproductions of shadows, together with other diagnostic evidence presented, is an excellent demonstration of the proper use of the x-rays.

When a lesion has been definitely identified as tuberculous, all too often one sees reports made from one film of the chest, including such words as active, quiescent, arrested, healed, stable, unstable, first infection type and reinfection type. With reference to determination of activity of a given lesion from the shadow it casts, the authors rightly state, "Notwithstanding the fact that there was a time when we sincerely believed that this question could be answered from the appearance of a single film alone, recent experience indicates that it is extremely difficult in most instances to do so. Before a process can be considered definitely active, progressive changes in subsequent roentgenograms or positive laboratory and clinical findings, such as a tuberculin reaction, tubercle bacilli in the sputum, or gastric washings, and increased sedimentation rate and fever, should be demonstrated." The correctness of this statement is obvious to all students of tuberculosis.

As long as the limitations of mass radiography employing photofluorograms as well as regular size x-ray films is explained and understood by all concerned, it is highly desirable to use the x-rays in screening the chests of any group of individuals, no matter how small or how large. Indeed, it should be extended to every citizen, as it detects the presence of gross lesions in the lungs, mediastinum and pleura, regardless of etiology, as well as changes in the cardiac outline, among persons in whom they are not suspected.

Four principal phases of an effective tuberculosis control program are discussed: (1) case finding, (2) medical care and isolation, (3) after-care and rehabilitation, (4) protection of the tuberculous family against economic distress. These four fundamental procedures are presented in such a manner as to convince the reader that Hilleboe and Morgan have a clear vision of satisfactory tuberculosis control throughout the country. This undertaking deserves the support of the entire medical profession and all of its allies in developing and carrying out a nationwide tuberculosis control program which ultimately could prove to be as successful as that which the veterinarians instituted and conducted against tuberculosis among cattle.

Tropical Medicine. By Sir Leonard Rogers, K.C.S.I., C.I.E., M.D., and Sir John W. D. Megaw, K.C.I.E., B.A., M.B. Fifth edition. Cloth. Price, $6.50. Pp. 518, with 89 illustrations. Baltimore: William Wood & Company, 1944.

The authors of this compact manual of tropical medicine are unusually well qualified not only by many years' duty with the Indian Medical Service but also by virtue of considerable experience as teachers and advisers in their specialty. Each contributed basic original studies and each rose to positions of major administrative responsibilities in India. It is not surprising that five editions of their book have appeared since it was published in England in 1930.

This work was planned to emphasize the recognition and management of the diseases commonly encountered in tropical and subtropical countries, with a minimum of discussion of laboratory and parasitic phases. The book gives a broad survey and is an introductory treatment of the subject.

The twelve sections cover respectively the fevers caused by protozoa, spirochetes, filtrable viruses, rickettsia bodies and bacteria; bowel diseases; diseases with prominent skin lesions; helminth diseases; diseases caused by venomous animals, diet, heat and light, and finally a miscellaneous section which includes a discussion of disease incidence in the tropics, hints on use of the microscope and some general remarks on the diagnosis of fevers. This fifth edition presents considerable revision in the chapters on malaria, kala-azar, trypanosomiasis, rickettsial diseases and those associated with diet.

As in previous editions, preventive aspects of the subject receive considerably less attention than clinical. Inevitably there must be a considerable interval between manuscript and published book, and this doubtless explains such important omissions as a discussion of the large initial dose of atabrine in the first twenty-four hours, now generally considered standard when this drug is used in treating malaria.

The format is not up to usual standards, but the type is clear and the figures are useful. The illustrations are few and generally poor. The two colored plates are crowded and leave much to be desired. There is no bibliography.

This book does not take the place of such a classic as the Stitt-Strong treatise on Tropical Medicine, and it does not have the balance of the recent Manual of Tropical Medicine by Mackie, Hunter and Worth. But it contains a very useful presentation of the clinical aspects of the important tropical diseases, soundly based on the unusually extensive practical experience of the authors.

Your Hair and Its Care. By Oscar L. Levin, M.D., and Howard T. Behrman, M.D. Cloth. Price, $2. Pp. 184, with 10 illustrations. New York: Emerson Books, Inc., 1945.

This "attempts to present in simple fashion the most recent scientific knowledge concerning hair, hair disease and the proper care of the normal scalp." Unfortunately, the authors have not fulfilled their assignment creditably. The first sentence in the book calls for challenge: "Few branches of medicine have made such progress in the past ten years as has the one concerning diseases of the hair and scalp." There are misleading inaccuracies throughout the book, as "Constipation is the root of a vast amount of baldness; a great deal can be done to prevent premature grayness; hair pins and hat pins are injurious to good hair growth; those who know that early baldness is a family trait should make particular efforts to prevent its coming; senile baldness should be guarded against before it appears." Writing expressly for the public, the authors have written simply, but with an inclination occasionally to facetiousness. The newer knowledge with regard to vitamins and endocrines is discussed briefly and adequately, yet on another page there is given the detailed technic for colonic irrigation. The last chapter, which consists of questions and answers, is particularly good, but the book as a whole hardly merits recommendation.

La dirección general de higiene de la Provincia de Buenos Aires. Por el Dr. Juan Leon, profesor adjunto de clínica obstétrica y docente libre de clínica ginecológica de la Facultad de ciencias médicas de Buenos Aires. Algo de la labor desarrollada especialmente en el terreno da la protección maternal e infantil. Paper. Pp. 203. Buenos Aires: "El Ateneo," 1944.

This book, published at his expense by the author, who is also assistant professor of obstetrics in the Buenos Aires Medical School, describes his experiences during the brief period (January-July 1944) when he acted as director of public health of Buenos Aires, the largest province of Argentina. A full account is given of the organization of the provincial health department and then more in detail the mother and child welfare activities carried out by the department since a special division was created at the author's suggestion for that purpose in the early part of 1944. The department controls fifteen hospitals in the province, a maternity with a school for midwives, five mother and child welfare stations, a nursery and other institutions. A number of other works were either under way or planned when the author left office. The budget of the department for the year 1944 was over 8,300,000 pesos, which represented a considerable increase over 1943.

Inebriety, Social Integration, and Marriage. By Selden D. Bacon, Ph.D. Memoirs of the Section on Alcohol Studies, Yale University, No. 2. Paper. Price, 75 cents. Pp. 76. New Haven, Connecticut: Quarterly Journal of Studies on Alcohol, 1945.

This reprint booklet attempts "to illustrate the possibilities of a sociological approach to a limited portion" of the problem of inebriety. It is a statistical paper supporting the personal conclusions of some workers in the field of alcoholism. While of some academic interest, it has no practical value for the practitioner.

What to Do About Vitamins. By Roger J. Williams. Cloth. Price, $1. Pp. 56, with 34 illustrations. Norman, Oklahoma: University of Oklahoma Press, 1945.

A competent nutritional scientist has presented in this little book the important facts of nutrition in a simple manner. The material covers more than the title suggests. The effects of food intake on body weight, emotional attitudes and the results of improper eating are discussed. The primary objective, however, is to provide assistance in straightening out the existing confusion with regard to vitamins. The functions of vitamins are compared to the lubricants for machines. They are obtained from foods eaten, and most dependably from a variety of foods. The dangers of using too much of certain foods such as white rice, refined sugar and flour are appropriately pointed out. Advice is given for guarding against loss of vitamins in the cooking of foods that contain vitamins. Throughout the book the author's experience with the nutrition of growing animals is utilized to emphasize the effects of good and poor nutrition. Readers may anticipate advice on the selection and use of vitamin preparations, but this is not the case. Emphasis is placed on foods as the proper source of nutrition, although the value of vitamin capsules under special conditions is not denied. To assist the reader in applying the principles discussed, diagrams are given providing visual comparison of the quality of foods. The simplicity of explanation and the multiplicity of examples make the book particularly valuable in orienting those confused or uninitiated in nutritional matters.

Tales from the Inns of Healing of Christian Medical Service in India, Burma and Ceylon. Prepared Under the Direction of the Executive Committee of the Christian Medical Association of India, Burma and Ceylon. P. V. Benjamin, President. Foreword by Rev. J. Z. Hodge, D.D. Canadian edition. Paper. Price, $1.25. Pp. 162, with illustrations. Toronto: The Committee on Missionary Education, The United Church of Canada; New York: Friendship Press, 1944.

A collection of unusual accounts from the mission hospitals in India, Burma and Ceylon that are operated by Christian Medical Service comprises the major portion of this small book. The struggles and difficulties of the pioneers in medical and hospital care are vividly retold in many anecdotes throughout the book. Modern scientific medicine, surgery and obstetrics was made available to a limited number of the lower classes in India through the mission hospital staffs. Much has been accomplished in establishing and furthering good schools of medicine and nursing for native Indians as a means of helping them solve some of their tremendous medical care problems. It is an interesting collection of reports of the valiant efforts of a few in their attempt to relieve the disease and distress of the forgotten man of India.

Contribución al estudio de los reduvidos hematofagos de Guatemala. Por Ernesto Blanco Salgado. Tesis presentada a la Facultad de ciencias médicas de la Universidad nacional, Guatemala, en el acto de su investidura de medico y cirujano. Publicaciones de la Dirección general de sanidad pública. Paper. Pp. 54, with 18 illustrations. Guatemala, C. A., 1943.

This booklet contains valuable information on the vectors of Chagas disease present in Guatemala and their morphology, distribution and habitats. It is to be noted that in spite of the varied and rich fauna of the country only two genera of Reduviidae are to be found, and each is represented by a single species, Triatoma dimidiata and Rhodnius prolixus, both proved carriers of American trypanosomiasis and both found naturally infected in Guatemala.

The Hair and Scalp: A Clinical Study (with a Chapter on Hirsuties). By Agnes Savill, M.A., M.D., F.R.C.P.I. Third edition. Cloth. Price, $4.75. Pp. 304, with 54 illustrations. Baltimore: William Wood & Company, 1945.

This is an excellent book and is as up to date as a current medical journal. The subject is covered completely, from structure and physiology of the hair to discussions of endocrinology, hair dyes, permanent waves and hirsuties. Although Savill is strongly influenced by the teaching of Sabouraud, she gives the views of opposing schools, and the result is a clearly expressed personal book which includes frequent references to pertinent case reports. This volume contains twenty short chapters dealing with normal and diseased scalp and hairs, simply classified under such captions as "itching of the scalp," "gray hair," "diffuse hair fall," "hairfall with bald patches" and "scaly conditions of the scalp." Altogether it is an authoritative book, written with charming simplicity by a woman who has obviously studied the subject matter intensely and with sympathetic understanding, for "to women they [maladies of scalp and hair] may indeed color all life with tragedy." The book is highly recommended.

Indice bibliográfico de lepra 1.500—1.943. Volume I: A-H. Organizado por Luiza Keffer, bibliotecária do Departamento de profilaxia da lepra de São Paulo. Paper. Pp. 674. São Paulo, 1944.

This index catalogue of works on leprosy is obviously the largest and most exhaustive reference list on any special medical subject so far published anywhere. Its publication constitutes a real service rendered by the Department for the Prevention of Leprosy of the State of São Paulo, Brazil, and especially its library, to a better knowledge of one of the diseases of most importance in some areas of the Americas. The mere list of journals embraces sixteen pages. The first volume covers only letters A to H. Leprologists and sanitarians, as well as bibliographers, will await with interest the appearance of the volumes reviewing the remaining letters of the alphabet.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

BCG VACCINE FOR TUBERCULOSIS

To the Editor:—**There have been numerous reports on the protective value of BCG vaccination against tuberculosis. Has this been used in this country? If so, where may one get the material and what is the technic?**

A. I. Love, M.D., Chicago.

ANSWER.—There have been numerous reports on the protective value of BCG vaccination against tuberculosis. In fact, since 1922 more than two million children, as well as some adults, have been vaccinated. Most of this work has been done in Europe, Africa and Asia; it has been employed to a much smaller degree in the Western Hemisphere. Although considerable optimism has been expressed, there are many who definitely oppose the procedure because the vast majority of studies have not been well controlled. Levine has called attention to the fact that ideal control calls for consideration of the following variables:

1. Environmental conditions: (*a*) intelligence and cooperation of parents; (*b*) differences in locality; (*c*) differences in time during which controls of vaccinated patients are studied.

2. Exposure conditions: (*a*) frequency of exposure; (*b*) amount of sputum expectorated; (*c*) number of micro-organisms in the sputum; (*d*) intensity of exposure.

3. Other factors: (*a*) age at first exposure; (*b*) racial differences; (*c*) reliable diagnosis at death; (*d*) identical follow-up of control and vaccinated patients; (*e*) maintaining contacts with all cases; (*f*) freedom from exposure for similar periods in both groups if separation is advisable for either group; (*g*) study of adequate numbers of subjects to minimize results of chance distribution.

Levine points out that in no study thus far reported have all these factors been considered and adequately controlled. Therefore, until such a controlled study has been made and reported, the efficacy of BCG vaccination will not be definitely known. Milton I. Levine of the Department of Pediatrics, Cornell University Medical College, New York City, has recently prepared an excellent analysis of a study on the efficacy of the BCG vaccine conducted by the Bureau of Laboratories of the New York City Department of Health between December 1926 and January 1944.

Alberto Chattas of Cordoba, Argentina, has published an elaborate monograph on this subject. In Canada, J. A. Baudouin of Montreal and R. G. Ferguson of Saskatoon have conducted extensive experiments. J. D. Aronson of the Henry Phipps Institute, University of Pennsylvania, Philadelphia, and J. D. Townsend of the Office of Indian Affairs, Department of the Interior, Washington, D. C., have in progress a rather extensive study on the efficacy of BCG in controlling tuberculosis among American Indians. S. R. Rosenthal of Chicago has evinced considerable enthusiasm for the administration of BCG. An extensive and prolonged study of BCG in controlling tuberculosis among cattle of the United States has been reported. The results of this work may be obtained from A. E. Wight, Chief of the Division of Tuberculosis, United States Bureau of Animal Industry, Washington, D. C. The technic of administration and the source of material can be obtained from any of the physicians mentioned.

WELDING AND THE PARATHYROIDS

To the Editor:—**A man aged 43 has chronic tetany. He has been doing electric arc welding. Could the rays have any effect on the parathyroids?**

William A. Doebele, M.D., Huntingdon, Pa.

ANSWER.—One by one the various internal secretory organs are suspected of being a site of harmful action of arc welding products: first the testes, with emphasis on impotence, and then the ovaries, with emphasis on sterility. For none of these is there proof that the rays derived from arc welding have any harmful properties. Moreover, in tetany from involvement of the parathyroids ultraviolet rays, which are the rays produced in arc welding, have some value in therapy. Aub states that "by ultraviolet light calcium absorption from the intestines is improved and calcium is also liberated from the bones. This effect is obtained only after several days. This treatment is of value in all tetanies with low blood calcium." With emphasis on the probability of coincidence in the occurrence of tetany in arc welding, two speculative possibilities may be mentioned. 1. In many types of electrical application, but not necessarily arc welding, large electrical fields are set up. It is possible, but little proved, that highly numerous minor electric fields may be set up within the body on an organ basis. Granting such a possibility, there still is lacking any knowledge of its physiologic import. 2. Arc welding may involve the use of many metals and chemicals, particularly if the welding is carried out with coated electrodes. Manganese, chromium, lead, fluorine and many others are in use; certain of these substances, such as lead and fluorine, upset the normal metabolism of calcium and phosphorus. Tetany is a condition characterized by the same sort of disturbed metabolism. In the *Lancet* (**1**:148 [Jan. 30] 1943) appears a note entitled "Fluorine and the Parathyroids." However, direct observation on small laboratory animals fed fluorine in toxic doses revealed no damage to the parathyroids, although some other organs were severely injured. In an article by K. Reinhart entitled "The Relation of Lead Poisoning and Parathyroid" (*Arch. f. Gewerbepath. u. Gewerbehyg.* **9**:80, 1938) the findings imply that in chronic lead poisoning a condition may arise bearing some similarity to tetany.

General discussion of tetany and parathyroid diseases may be found in such publications as:

Meakins, Jonathan Campbell: The Practice of Medicine, St. Louis, C. V. Mosby Company, 1936.

Cecil, Russell L.: A Textbook of Medicine, Philadelphia and London, W. B. Saunders Company, 1937.

THE VAGINAL DOUCHE

To the Editor:—**I am interested in the origin of the word douche and the earliest references from a purely hygienic point of view. There are many references regarding early intrauterine and vaginal douching during labor and the postpartum period, also as a therapeutic measure, but I am interested particularly in the mechanical aspect, as employed by the French, for instance, as a daily routine. Is it possible to furnish me with historical references concerning the douche from the standpoint I have outlined?**

M.D., District of Columbia.

ANSWER.—The word douche is French and signifies a shower bath. However, in the English language the word is used to describe a stream of water directed against a part or into a cavity (American Illustrated Medical Dictionary). As generally used nowadays by both physicians and the public the word douche nearly always refers to a spray of water directed into the vagina either for purposes of cleansing or for therapeutic reasons.

Douches have been used for many centuries. Hippocrates, who died in 357 B. C., mentioned that vaginal irrigations were used extensively for vaginal and uterine diseases. Douches are used all over the world. The French have developed a special kind of douche which is used most extensively in France and is known as a bidet. This particular type of douche is used chiefly from a hygienic point of view and the apparatus for its use is really a sitz bath. Incidentally, the word bidet in French also means "pony" or "nag" and the woman usually sits on a bidet as one rides a horse. French women use the bidet both for external cleansing of the vulva and for vaginal douching. For many years the bidet has been the only plumbing equipment for bathing to be found in many bedrooms in France.

THROMBOANGIITIS OBLITERANS

To the Editor:—**Is there any indication that heredity plays a part in the etiology of Buerger's disease? What is the usual cause?**

Perry B. Preston, M.D., Newark, N. J.

ANSWER.—Buerger's disease may occur in members of the same family; brothers are sometimes affected. However, there have not been enough cases studied over two or more generations in family groups to permit any definite conclusions. The cause of the disease is unknown.

DOSAGE OF TESTOSTERONE

To the Editor:—**With reference to the answer to the query on Dosage of Testosterone Propionate in The Journal, July 14, 1945, page 838, may I put in a word of dissent? In the past year I have given testosterone propionate in 25 mg. doses three times weekly for three weeks to 2 men aged over 65 years. The first patient died six weeks later of an enormous carcinoma of the stomach. X-rays of the stomach taken prior to institution of the androgen therapy were negative and still look so in retrospect. The second man died about a month after termination of therapy of a rapidly growing retroperitoneal sarcoma. Probably both neoplasms were present prior to institution of the therapy, but the rapidity of their growth and their apparent stimulation by the androgen simply appalled me, so much so that I have now made it a rule to give no such treatment to any man over 60.**

Kenneth Goodman, M.D., East Orange, N. J.